

# KT 100,000 Free Wi-Fi Deployment for the Connected City

## [Key Points]

- KT opened 100,000 Wi-Fi Access Points(APs) to all citizens nationwide including at shopping centers and culture & tourism facilities
- Other telco customers can also use Korea's best coverage and quality Wi-Fi service
- KT managed to secure best service quality by installing additional equipment, inspecting old equipment etc. for 100,000 GiGA Wi-Fi APs.

Based on Korea's best wired and wireless network infrastructure, KT has focused on developing differentiated Wi-Fi technology and extending coverage. With 264 distinct technology patents, KT's technological prowess has been recognized on the global stage. Through this technological expertise and infrastructure, KT is providing globally state-of-the-art Wi-Fi service to KT customers with around 180,000 Wi-Fi APs.

Traffic statistics from the Korean Ministry of Science, ICT and Future Planning (MSIP) show that Wi-Fi traffic nearly doubled in just three years, from 7,309TB in April 2015 to 14,108TB in April 2017, showing a steady user demand for Wi-Fi. Further, market research company Nielsen Koreanclick conducted a study of Korean Android smartphone users in March 2017, finding that video watched over Wi-Fi accounted for 90.7% of all video usage time.

"Meok-bang", an online broadcast during which a host consumes vast quantities of food, and online gaming broadcasts have been big fads in Korea for years. Users want to watch the broadcasts anytime, anywhere but watching the broadcasts consumes a huge amount of data. Thanks to KT's Free Wi-Fi, users now can enjoy their favorite broadcasts through Wi-Fi even on the streets.

## **Complexity or scale of deployment**

To support the Korean government's Wi-Fi 2.0 strategy intended to reduce households' telecom expenses, KT is using Korea's best quality and coverage Wi-Fi infrastructure and completed opening 100,000 Wi-Fi AP nationwide to all citizens on 11 August 2017, so that they can enjoy a carefree mobile life.

Wi-Fi was opened in the areas with high density during everyday life and a large floating population, including Δamenities (convenience stores/department stores/large

supermarkets/bus stops/subway stations/bus terminals/gas stations/etc.), Δtourist destinations (public squares/parks), Δsports and culture facilities (concert halls/theaters/book stores), and other locations with great data usage. KT expects the free Wi-Fi to be very effective in reducing citizens’ data expenses.

APs were installed in the following locations nationwide.

**Table 1: Location and number of KT Free Wi-Fi APs**

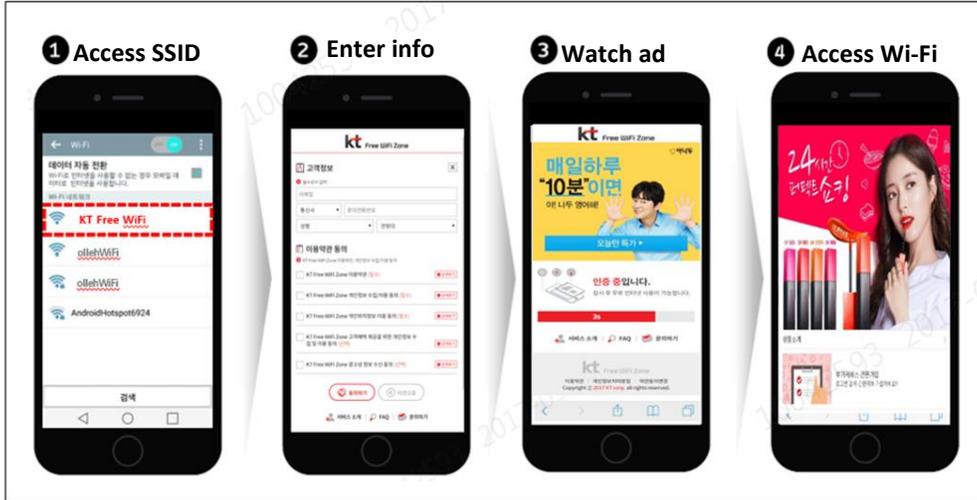
Hot Spots	Number of APs
Government Buildings (National Assembly/Courts/City Halls/Community Centers, etc.)	10,000
Educational Institutions (Colleges/Primary & High Schools/Libraries/Private Institutes)	21,000
Transportation Facilities (Subway/Train Stations/Bus Terminals/Service Areas)	7,000
Company/Accommodation (KT Branches/Motels/Dormitories/Resorts)	8,000
Culture/Living/Shopping (Museums/Culture Centers, etc.)	33,000
Sports Facilities/Outdoors (Farmer’s Markets/Main streets, etc.)	9,000
Restaurants/Cafés (Starbucks)	2,000
Medical Facilities (Healthcare Centers/Clinics, etc.)	10,000
<b>Total</b>	<b>100,000</b>

With opening 100,000 APs, KT has made best-level Wi-Fi infrastructure available not just to KT customers, but to other telco customers as well, enabling them to enjoy the best coverage and quality Wi-Fi service in Korea. We expect this Wi-Fi opening to result in 200TB in monthly data savings (2,403TB/year) and KRW4.9B/month or USD4.4M/month (KRW59.4B/year or USD53.0B/year) in telecom expense savings for citizens based on 2017 year-end estimates.

**Innovation applied in the public/private partnership model and/or monetization models**

The innovation applied is the method for customers from other telcos to use 1 hour of free Wi-Fi after watching a commercial for a fixed time (5-15sec).

Figure 1: Advertising-based Free Wi-Fi



**Improvement of quality of service to end-users and city services**

To prevent quality degradation from an increase in Wi-Fi users following opening of Wi-Fi to all citizens nationwide, KT installed additional equipment, inspected old equipment centered on traffic hotspots and completed all preparations by the end of August 2017. In particular, the number of GiGA Wi-Fi APs will be increased from the current 80,000 to 100,000 by the end of the year, meaning that high quality service will be maintained even if the number of users increases. Compared to regular Wi-Fi, GiGA Wi-Fi offers twice the coverage, 17x the concurrent user access number (512 people can access simultaneously) and 3x faster gigabit speed.

Figure 2: Replacing an AP to a GiGA Wi-Fi AP



**Reference: Wi-Fi Quality Satisfactory Usage & Attitude Survey**

H2 2016, User Satisfaction Index increased thanks to the replacement of 40,000 sets of GiGA Wi-Fi APs

**Chart 1: Wi-Fi User Satisfaction Index**

