



5G First Look

A new intelligence service that provides an early look at 5G deployments across the globe, complete with performance benchmark testing

5G First Look

The promise, potential,
and real-world performance

5G First Look: What it is

What's covered

Additional resources

Who this report is for

Country-specific 5G testing

Appendix

5G First Look: What it is

The 5G race has officially started, with operators in South Korea and the US scrambling to launch the first publicly available 5G networks.

To bring clarity to how 5G networks will perform under real-world conditions, the **“5G First Look”** intelligence service from IHS Markit offers an early look at 5G deployments across the globe, complete with scientific testing that provides an objective benchmark of each 5G network.

Our testing shows what is currently possible with initial deployments and how closely the reality of 5G matches earlier 5G promises.

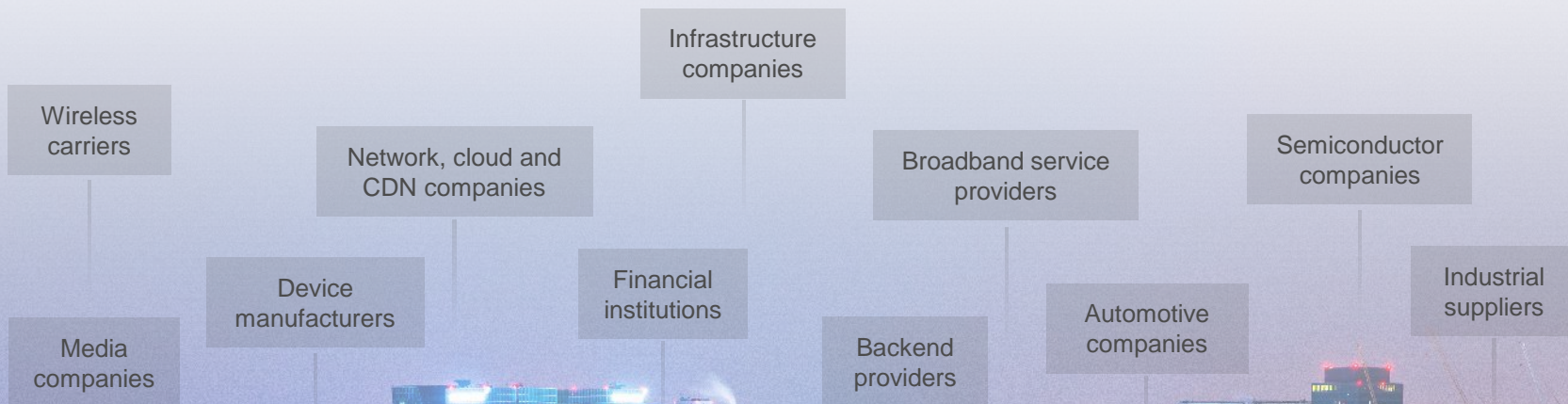
5G First Look answers...

Which carrier offers the best network performance for the following metrics

- Overall performance
- Network speed
- Network reliability
- Call
- Data
- Text

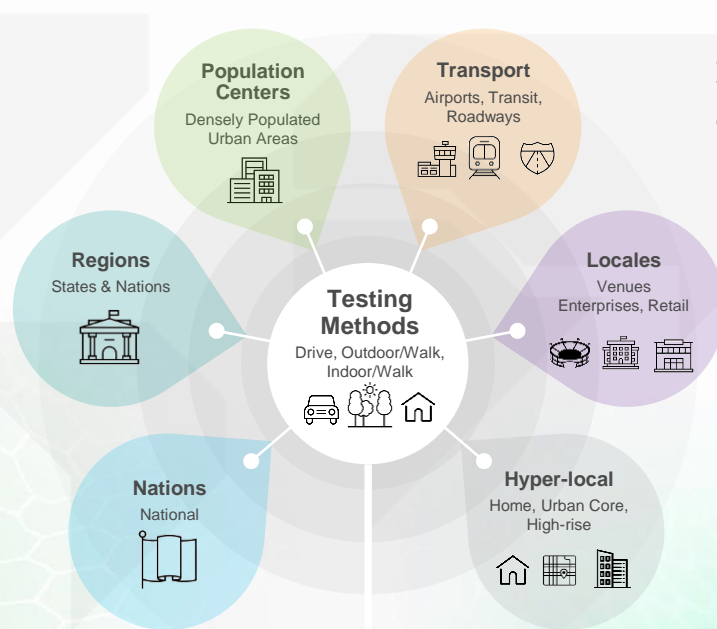
What services will be available

Who this report is for



5G insights from nation to neighborhood

The most complete picture of 5G performance available



What's covered

State of the 5G mobile networks

Market coverage

- A general overview of 5G
- Why 5G matters to consumers, and carriers' ability to deliver on expectations
- Use cases and applications for 5G, and whether the networks are ready
- Why all "5G"s are not equal
- Overview of the 5G race between operators and countries
- Anticipated economic impact of 5G
- A first look at what 5G delivers under real-world conditions
- 5G market status, including network rollouts and device availability

Results for each country tested

- Total subscriber base and market share per carrier by country under test
- 5G-specific services offered by each operator in the market
- Equipment provider insights per carrier per country
- Spectrum deployment insights per carrier per country
- Testing stats and facts per country
- Testing results, including call performance, data performance with fastest maximum speeds recorded, 5G reliability insights, and 5G vs. 4G assessments
- Device under test with teardown highlights

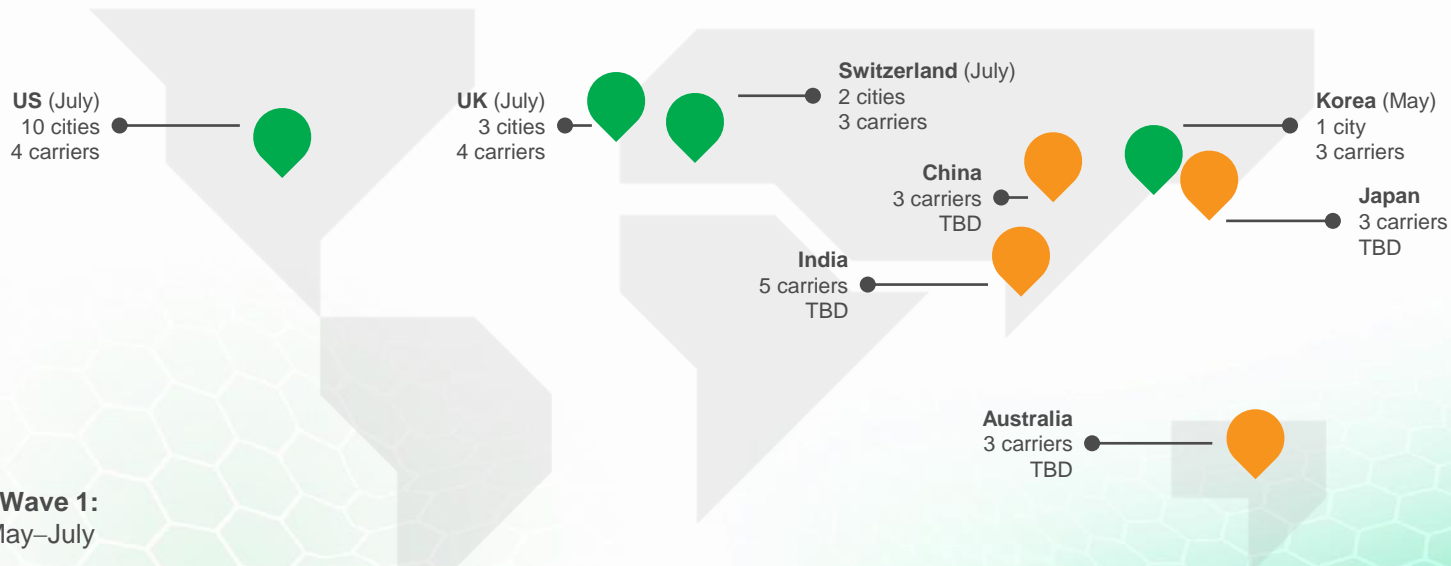
Also included

- RootInsights, an online data visualization tool
- Test-level raw and lower-layer detail CSV file
- Video raw detail CSV file (limited markets)
- Teardown access for scout devices
- Quarterly update webinar with analysts

Country-specific 5G testing

Bringing marketplace awareness to consumers and enterprises on what is true 5G and who has the best 5G network

5G First Look rollout



- 5G First Look **Wave 1:**
4 countries, May–July
- 5G First Look **Wave 2:**
4 countries, August–October

Wave 1: South Korea

Preview results ready

Networks tested

5G, LTE, 4G, 3G, 2G (whatever the device uses while testing)

Operators tested and devices used

| Operator | Device |
|------------|----------------|
| KT | Samsung S10 5G |
| SK Telecom | Samsung S10 5G |
| LG U+ | Samsung S10 5G |

Testing activities

Indoor, outdoor, drive

Testing areas

- Seoul metro and roadways
- Seoul urban metro+, covering:
 - Myeong-dong, Starfield Coex Mall at Samseong Station, Namdaemun Market, Hongdae (Wausan-ro), Dongdaemun, Insa-dong, Itaewon-dong, Nonhyeon-dong, Yeoui-dong, Yongsan Station, Seoul Station, Yeoksam-dong, Gangnam Station
- Seoul to transit station and line
 - Seoul Station to Busan Station via KTX line
- Seoul rural and roadways



Wave 1: United States

First market results ready July

Networks tested

5G, LTE, 4G, 3G, 2G (whatever the device uses while testing)

Operators tested and devices used

| Operator | Device |
|----------|----------------|
| AT&T | Samsung S10 5G |
| Sprint | LG V50 |
| T-Mobile | N/A |
| Verizon | Samsung S10 5G |

Testing activities

Indoor, outdoor, drive

Testing areas

Metro, metro+, rural, and roadways;
top 10 cities with 5G, including:

- Chicago (Sprint, Verizon): The Loop, Magnificent Mile, The Gold Coast, River North, and Old Town
- Charlotte (AT&T, Verizon)
- Dallas (AT&T, Sprint, Verizon)
- Atlanta (AT&T, Sprint, Verizon)
- Kansas City (Sprint, Verizon)
- Houston (AT&T, Sprint, Verizon)
- Indianapolis (AT&T, Verizon)
- San Diego (AT&T, Verizon)
- Phoenix (Sprint, Verizon)
- Washington DC (Sprint, Verizon)

Wave 1: Switzerland

Results ready July

Networks tested

5G, LTE, 4G, 3G, 2G (whatever the device uses while testing)

Operators tested and devices used

| Operator | Device |
|----------|--------------------|
| Salt | Xiaomi Mi Mix 3 5G |
| Sunrise | Xiaomi Mi Mix 3 5G |
| Swisscom | Xiaomi Mi Mix 3 5G |

Testing activities

Indoor, outdoor, drive

Testing areas

- Metro lite, including -- but not limited to -- Zurich and Geneva
- Rural
- Transit
- Roadways across Switzerland



Wave 1: United Kingdom

Results ready end of July

Networks tested

5G, LTE, 4G, 3G, 2G (whatever the device uses while testing)

Operators tested and devices used

| Operator | Device |
|----------|----------------|
| EE | OnePlus 7 5G |
| O2 | Samsung S10 5G |
| Three | Huawei Mate X |
| Vodafone | Samsung S10 5G |

Testing activities

Indoor, outdoor, drive

Testing areas

- Metro and metro+, including -- but not limited to -- London, Cardiff, and Manchester
- Rural
- Transit
- Roadways



Other syndicated 5G solutions

[Digital Orbit](#)

Tracks the development, impact, and disruption caused by transformative technologies across key industries

[Mobile Infrastructure Intelligence Service](#)

Offers insight on 5G network infrastructure, standards developments, and carrier deployment strategies

[Operator Multi-play Intelligence Service](#)

Provides country-level 5G subscriber forecasts and operator strategies for 5G

[Smartphone Intelligence Service - Premium](#)

Offers coverage of 5G smartphone shipments and capabilities

[Wireless Semiconductor Competitive Intelligence Service](#)

Tracks 5G chipsets, RF front end, and pricing trends

[Cellular IoT Intelligence Service](#)

Provides analysis of new IoT market opportunities for 5G

[Industrial Communications Intelligence Service](#)

Examines 5G used for industrial application deployments

[Broadband Infrastructure Intelligence Service](#)

Examines 5G used for fixed wireless access deployments

Additional 5G resources

Webcast

[The 5G ecosystem – one network, many challenges](#) (May 29)

Complimentary whitepaper

[The promise and potential of 5G: Evolution or revolution?](#)

Our methodology

[The RootMetrics approach: Scientific, unbiased network performance testing](#)

Video

Understand 5G's potential to meet numerous needs within one network



Appendix

IHS Markit tests all aspects of connected life to show a real-world picture of what's working, where improvements can be made, and where growth opportunities exist.



Cellular
& 5G



Wi-Fi &
broadband



Gaming
networks



Cloud
networks



IoT



Crowd &
embedded



Consumer
devices



AI & voice
assistants

How is 5G improving these experiences?

RootMetrics by IHS Markit data is the standard for performance measurement. We deliver scientific testing of how consumers and enterprises experience technology under real-world conditions.

Visibility and insight

Improved decision making

Real-world testing

Competitor intelligence

IHS Markit covers the broadest 5G technology experiences

More locations

Nationwide, including indoor and outdoor testing

Comprehensive analytics and insights

Performance, speed, reliability, coverage, spectrum deployment, spectral efficiency, band utilization, carrier aggregation analysis, timing advance, and site density

Hyper-local areas

Dense urban walking, in-home testing, and vertical indoor testing

Lower-layer data collection

Mobile measurements, lower-layer data, and scanner (coming soon)

Consumer-based testing

Upload/download throughput, mobile-to-mobile calling, light data, and protocol testing

5G benchmark use cases

Cellular, converged networks, broadband, Internet of Things (IoT) including mMTC, edge, consumer devices, multi-cloud networks, gaming, AR/VR, and crowd

Consumer survey and sentiment analysis

Direct feedback from consumers through survey and social sentiment analysis on what they expect from 5G

Superiority claims and awards

Improvement, leadership, reliability, connectivity, and speed

Market intelligence research on 5G

The most comprehensive market intelligence on 5G deployments worldwide

Marketing and PR


Leverage the IHS Markit brand to help marketplace positioning



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