

## Opensignal: 5G 时代移动网络体验报告

加拿大和韩国的下载速度体验名列前茅。2020 年初，韩国和加拿大的平均下载速度都达到了惊人的 59 Mbps。

许多国家/地区的移动体验都有所改善

虽然加拿大和韩国的表现出类拔萃，但他们并不孤单。2019 年初至 2020 年间，在追踪的 100 个国家下载速度平均提高了 3 Mbps，增长了 24.3%。

加拿大和日本在七国集团（G7）中领先

当观察 G7 国家的下载速度体验时，加拿大和日本与其他国家之间的差距扩大了 10.2-15.9 Mbps。其他 G7 国家，法国、德国、意大利、英国、美国的下载速度比加拿大慢 50%以上，比日本慢 40%以上。

更快的下载速度并不总是与更好的视频体验相关联

虽然下载速度和视频体验质量之间存在关系，但这种关联的强度会随着速度的提高而下降。

拥有出色视频体验的国家/地区数量

捷克、荷兰、奥地利和挪威在视频体验方面并列第一，与 2019 年第一季度形成鲜明对比的是，当时只有挪威和匈牙利。

4G 可用性超过 95%的国家/地区翻了一番

由于许多国家还没有推出 5G，美国、荷兰和中国台湾加入了 4G 可用性得分高于 95%的国家行列。加上日本、韩国和挪威，总数达到 6 个。

5G 采用需要加快，以改善整体下载体验

已经推出 5G 的 20 个国家的下载速度从韩国的 59 Mbps 到科威特的 16.6 Mbps 不等。5G 的下载速度体验上升了 24.9%，而 2020 年第一季度还没有推出 5G 或者刚刚推出的国家和地区在下载速度体验上升幅度略小一些，增幅为 23.9%。



# THE STATE OF MOBILE NETWORK EXPERIENCE 2020: ONE YEAR INTO THE 5G ERA

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Opensignal active userbase:



Total Devices  
43,338,654



Total Measurements  
87,524,176,592



Data Collection Period  
Jan 1 - Mar 30, 2019 & 2020

Opensignal is the independent global standard for analyzing consumer mobile experience. Our industry reports are the definitive guide to understanding the true experience consumers receive on wireless networks.

# Key Findings

One year on from the first launch of 5G services for smartphone users back in April 2019, Opensignal looks at what's changed across 100 countries globally on [six different measures of the mobile network experience](#), including upload and download speed, video, voice and games experience, along with the percentage of time that 4G users spent connected to a 4G network (4G Availability).

- How do countries compare on Download Speed or mobile Video Experience?
- Which countries have seen the biggest improvements in mobile experience?
- Have countries that have launched 5G improved significantly more than 4G-only countries?
- Do high data speeds automatically result in a better mobile experience?

## Canada and South Korea are now joint top in Download Speed Experience

A year ago South Korean users were the only ones that experienced average download speeds above 50 Mbps. While Korea's operators launched 5G in April 2019, and Canada has only just launched 5G, in early 2020 our Canadian users saw download speeds statistically tied with those of South Korea. Both countries clocked at a blisteringly fast 59 Mbps.

## There are improvements in mobile experience across many countries

While Canada and South Korea's performance is exceptional, they're not alone. The average across the 100 countries we've analyzed rose by 3 Mbps between early 2019 and 2020 – an increase of 24.3%.

## Canada and Japan have accelerated further ahead of their G7 peers

When we looked at Download Speed Experience for G7 countries, the difference between Canada and Japan and the rest has widened by 10.2-15.9 Mbps. The Download Speed Experience of the other G7 countries – France, Germany, Italy, U.K., U.S. – was more than 50% slower than Canada's and more than 40% slower than Japan's.

## The number of countries with Excellent Video Experience has jumped to 15 from none in one year

The Czech Republic, the Netherlands, Austria and Norway statistically tied for first place in Video Experience, in contrast to the first quarter of 2019, when it was just Norway and Hungary. There are now 15 countries where our users have observed an Excellent Video Experience. Japan, Singapore and Australia were the only non-European countries in this category.

## Countries with 4G Availability in excess of 95% have doubled from three to six

4G continues to be important in the 5G era for several reasons. The first version of 5G (i.e. non-standalone access) means that 5G phones need to connect to a 4G signal to use 5G. Plus, many countries have yet to launch 5G. Three more countries have joined the exclusive club of nations with 4G Availability scores higher than 95%: the U.S., the Netherlands and Taiwan. Together with Japan, South Korea and Norway, this takes the total number of such countries to six. Users in 21 countries have reported 4G Availability in the 90-95% range up from 12 last year. Our users observed double-digit improvements in 4G Availability in 11 countries with a combined population of around 680 million.

### Faster download speeds aren't always associated with a better Video Experience

While there is a relationship between download speeds and the quality of the Video Experience, the strength of this correlation declines as speeds increase. For example, the Czech Republic, where our users saw average download speeds of 32.7 Mbps tied for first place for Video Experience with the Netherlands, where average speeds were 54.8 Mbps.

### 5G adoption needs to accelerate to move the overall download experience

The Download Speed Experience in 20 countries that have launched 5G ranges from 59 Mbps in South Korea to 16.6 Mbps in Kuwait. 5G countries' Download Speed Experience rose by 24.9%, while that in countries that in the first quarter of 2020 had yet to launch 5G, or have only just done so, rose only slightly less, with an increase of 23.9%. While 5G users can experience much higher speeds they still make up a small proportion of users. However, 5G countries performed better in absolute terms, with their users observing an increase of 6.4 Mbps versus the 1.9 Mbps increase seen on average in non-5G countries.

### Highlights of the mobile experience in 2020 — one year into the 5G era



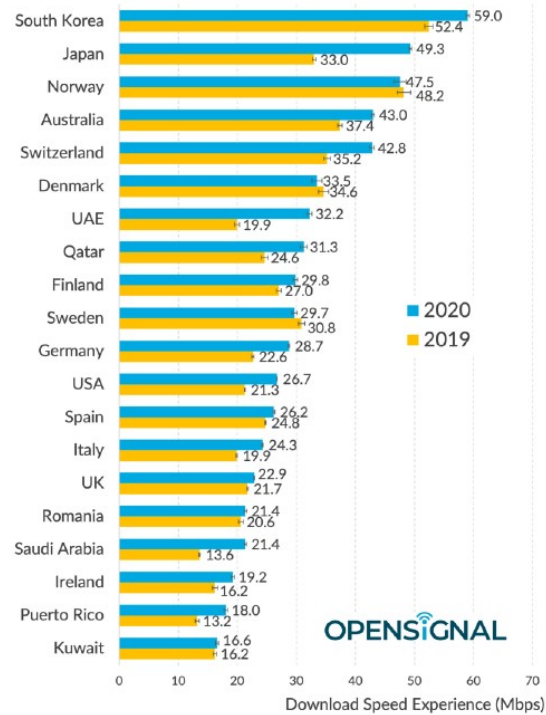
## Faster 5G adoption will help more users to benefit from the improved 5G experience

The Download Speed Experience in the 20 leading 5G countries that we have focused on in this chart ranges from 59 Mbps in the case of South Korea to 16.6 Mbps in Kuwait. Our users in five 5G countries observed speeds in excess of 40 Mbps (South Korea, Japan, Norway, Australia and Switzerland). Moving away from the front-runners, speeds were far more moderate with three countries' users reporting speeds in the low 30s.

We've seen even higher average speeds when looking at 5G speeds in [Opensignal's initial U.S. 5G analysis](#) and at [maximum 5G speeds in a number of other leading 5G countries](#). In those analyses we found 5G average speeds to typically be in the 100 to 250 Mbps range, with some even higher. This indicates that it is the relatively low numbers of 5G users to date that is causing the overall Download Speed Experience of these 5G countries to increase modestly. However, once 5G smartphones become more widely adopted and their supporting networks become more widespread, the speeds enjoyed by their users will have a greater impact on average speeds. The mobile industry should look to accelerate 5G deployments to help boost users' overall mobile experience.

In a number of 5G countries, overall download speeds are yet to increase by more than a little. U.K. users saw speeds rise by 1.1 Mbps, while U.S. users saw speeds increase by 5.4 Mbps, and Australians by 5.6 Mbps. We saw a larger increase in South Korea – its more than five million 5G users helped boost speeds from 52.4 to 59.0 Mbps, an increase of 6.6 Mbps (12.6%) in the year since South Korea's April 2019 5G launches. South Korea is unique in the extent of its 5G adoption – it recently came first in the world in this regard [with a penetration rate of 9.7% as of April 2 2020](#). To put this into perspective, China, the U.S. and the U.K all have less than 1% of their mobile subscribers on 5G contracts.

5G Countries – Download Speed Experience



Data collection period January 1 – March 30, 2019 & 2020 | © Opensignal Limited

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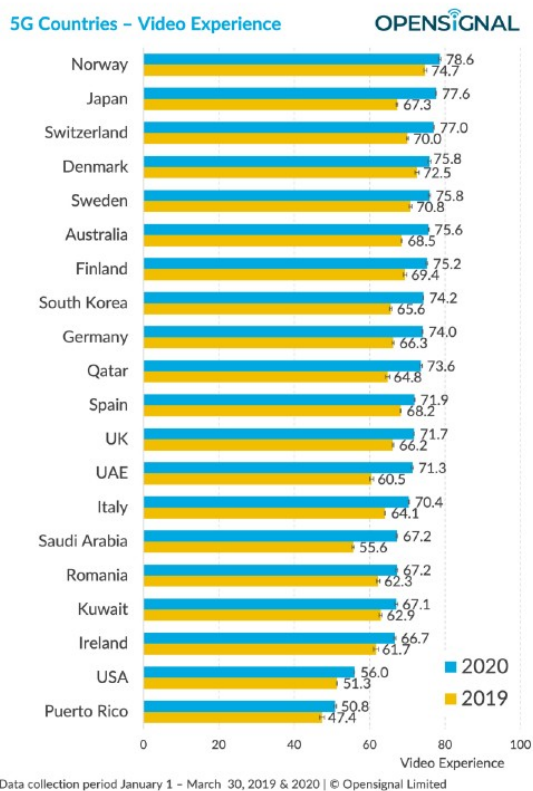
The scale of South Korea's improvement since the first quarter of 2019 is all the more impressive given that the country came first for Download Speed Experience last year. As 5G adoption increases, it is likely that we'll see large increases in download speeds even in countries where our users are already experiencing impressive speeds and [we recently observed that 5G is faster than Wifi in seven out of eight leading 5G countries](#).

When we compare the change in average download speeds (weighted by population) for these twenty leading 5G countries and those countries that in the first quarter of 2020 had yet to launch 5G or have only just done so, 5G countries' Download Speed Experience rose by 24.9%, while that in those in the latter category rose only slightly less, with an increase of 23.9%. However, 5G countries performed better in absolute terms, with their users observing an increase of 6.4 Mbps versus the 1.9 Mbps increase seen on average in non-5G countries.

## Even in 5G countries, there's still room to improve mobile Video Experience

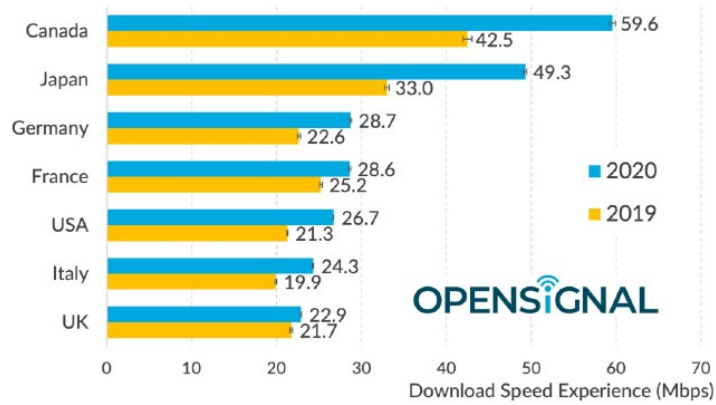
A 5G launch is not sufficient for the average user to enjoy a great mobile video experience. Our users had an Excellent Video Experience (scores of 75 or more) in seven out of our list of 20 countries where 5G has launched including Norway, Japan, Switzerland, Denmark, Sweden, Australia and Finland. South Korea narrowly missed this category by just 0.8 points. All told, users in 11 countries observed a Very Good (65-75) experience, while the U.S. placed in the Good (55-65) category. [A guide to our metrics and the different categories can be found here.](#)

When we compare the average change in Video Experience (weighted by population) over the past year between the 5G countries we have selected and those countries that in the first quarter of 2020 had yet to launch 5G, non-5G countries saw more improvement in both absolute and percentage terms. The average score of these 5G countries rose by 6.5 points to 67 points, an increase of 10.7%. In comparison, non-5G countries' average Video Experience score rose by 8 points to 46.9 points, an increase of 20.5%.



## Five G7 countries see little change, but two shoot ahead

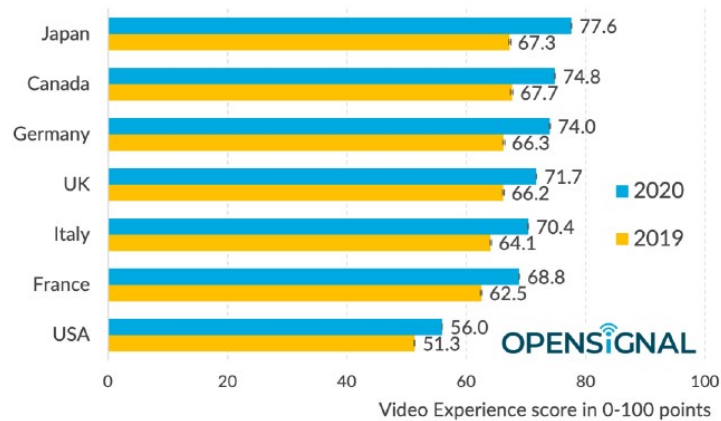
### Download speeds have risen sharply in Canada and Japan



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Looking at the average download speeds seen by our users in G7 countries, it really is a tale of two countries – Canada and Japan. The difference between their speeds and those of their G7 peers has widened by 10.2-15.9 Mbps since our last report. As a result, the Download Speed Experience observed by our users in the other G7 countries are 51.8-61.6% slower than those seen in Canada and 41.7-53.6% slower than those in Japan.

### Among G7 countries the US still ranks last for Video Experience



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[In our last report](#), our U.S. users saw the lowest Video Experience out of all of those in the G7. This remains the case and the gap has widened further, with that between the U.S. and France (the G7 country with the next lowest score) increasing slightly and the U.S.'s score growing by the least in absolute terms – though the U.K. saw the weakest growth in percentage terms.

The U.S. is the only country in the G7 to place in the Good category. Its peers are predominantly in the Very Good category with the sole exception of Japan where our users reported an Excellent Video Experience. Japan had the highest score for Video Experience out of the G7.

While Japan and Canada had the highest two scores for Download Speed in the G7 as well as Video Experience, their lead for Video Experience was far more modest. Third-placed Germany was hot on their heels with a score just 0.8 points shy of Canada's.

## South Korea and Canada tie for first on download speed

This time last year on the eve of the first 5G launches, South Korea was the only country where our users experienced average download speeds of more than 50 Mbps and it was the fastest country overall. However, despite South Korea's advanced 5G rollout and 5G smartphone uptake and the fact that Canada has only just started a commercial 5G launch, the speeds observed by our Canadian users statistically tied with those of South Korea, with both countries clocking at around a blisteringly fast 59 Mbps.

The speeds observed by our users in the Netherlands were also well in excess of 50 Mbps, averaging 54.8 Mbps, while those seen in Japan, Norway – last year's runner-up – and Singapore were below this mark but still eye-wateringly fast with scores of 49.3 Mbps, 47.5 Mbps and 47.5 Mbps, respectively.

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