

CASE STUDY

How Batelco Uses Crowdsourced Network Intelligence to Continuously Improve Bahrain's Top-Rated Mobile Network

With digital transformation at the forefront of national policy and real estate development booming, Bahrain's mobile operators have needed to expand their networks for fast, reliable connectivity throughout the Kingdom. To continue to provide the best network performance and coverage, Bahrain-based mobile operator Batelco determined that existing methods for evaluating and validating network performance would need to be modernized in order to scale with the nation's developments.

Batelco's mission is to serve and inspire customers by building, operating and investing in digital services, forefront technology and connectivity. To that end, Batelco uses Ookla Cell Analytics™ to gain insights on customer network experience, indoor and outdoor RF conditions, and where to prioritize network investments.



"At Batelco, we are evolving how traditional telcos operate. We center our operations around providing superior service to customers — which is enhanced by using crowdsourced data. Ookla Cell Analytics helps us identify areas with lower performance or coverage, understand the issue and take action to ensure that our customers receive the best possible service."

— Mr. Rashid Mohamed, General Manager Networks, Batelco

Speed Score™

43.69

Consistency Score™

86.19

Speedtest Awards™



**BAHRAIN'S
TOP-RATED
MOBILE
PROVDER**

Situation

Traditional methods for evaluating network performance and customer experience — such as on-site visits, customer surveys, and walk tests — can be time-consuming and costly. Furthermore, it simply isn't possible to walk-test certain locations, such as private homes and businesses. As Bahrain's demand for high-speed mobile coverage increased, it became clear that Batelco needed a scalable, data-driven method to determine where to invest in network improvements — and to identify areas where low-cost network optimizations would immediately improve the customer network experience.

Solution

Metrics in Cell Analytics such as signal level, signal quality, user density, most frequent band, most frequent cell and network throughput measurements helped Batelco see exact signal levels in a specific location. This helped their team identify coverage gaps throughout their areas of interest, which is much harder to do when relying on drive and walk testing alone. Batelco then used this data to apply cost-effective solutions throughout the Kingdom by tackling the right problems in the fastest possible manner. For example, Batelco discovered areas with high user density but poor RF conditions, then subsequently worked to build a new cell site or adjust existing site parameters to enhance coverage in high-priority areas. The Batelco team was also able to utilize this crowdsourced measure of demand to prioritize high-density areas to introduce 5G.

Analyzing in-building network performance and coverage

Indoor coverage is incredibly important in Bahrain where there are, on average, 10 or more devices per household. Because indoor service issues can sometimes be limited to specific floor groups in tall buildings, it is especially important to have insight into RF conditions by building height and intelligence about indoor vs. outdoor network performance. Batelco used Cell Analytics 3D maps to determine the altitudes at which users experience poor network quality or throughput. As a result of these improvements, we can see in the image below that throughout 2020, even the highest floors of the tallest buildings in the capital city of Manama experienced good to excellent signal strength on the Batelco network.

LTE RSRP on Batelco in Manama
Cell Analytics™ | 2020



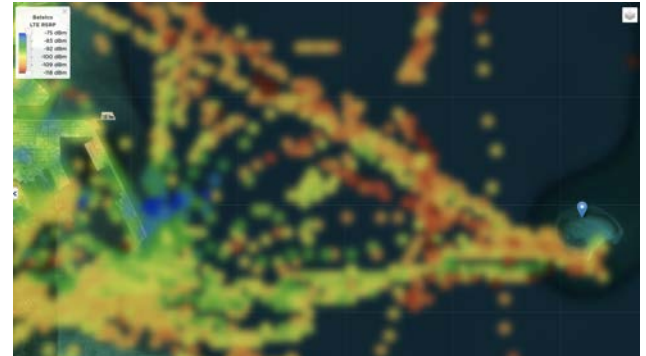
Providing mobile coverage for the first time on Jarada Island

Jarada Island, a cay located 32 kilometers east of Manama in the Arabian Gulf, is a popular tourist boating destination, famous for scuba diving spots. For many years, the island and surrounding areas have lacked mobile coverage from any operator, posing a safety hazard for visitors.

LTE RSRP on Batelco on Jarada Island
Cell Analytics™ | Q4 2019



LTE RSRP on Batelco on Jarada Island
Cell Analytics™ | 2020



Jarada Island is indicated by the blue pin on the right side in the above images. In Q4 2019 there was no mobile coverage along the coast or anywhere in the open water near Jarada island. Over the following 12 months, Batelco improved the range and quality of their radio coverage to become the first mobile provider offering coverage both en route across the sea and on the island itself. The team used Cell Analytics to validate their coverage on the Island and continue to monitor their network performance there.

Making customer voices heard through crowdsourced data

Batelco has been working to put their customers first by using surveys, questionnaires, comments and social media to listen to customer concerns and pain points. For the customers who don't call or use digital service channels when they experience a network issue, crowdsourced data provides Batelco with a view into their real-world network experience. With this data, Batelco was able to address problems that customers often do not even see, such as packet loss and re-transmissions. Using real-world measurements of network quality, availability and performance has helped Batelco improve network coverage in areas with low availability or throughput — before a customer ever needs to complain.

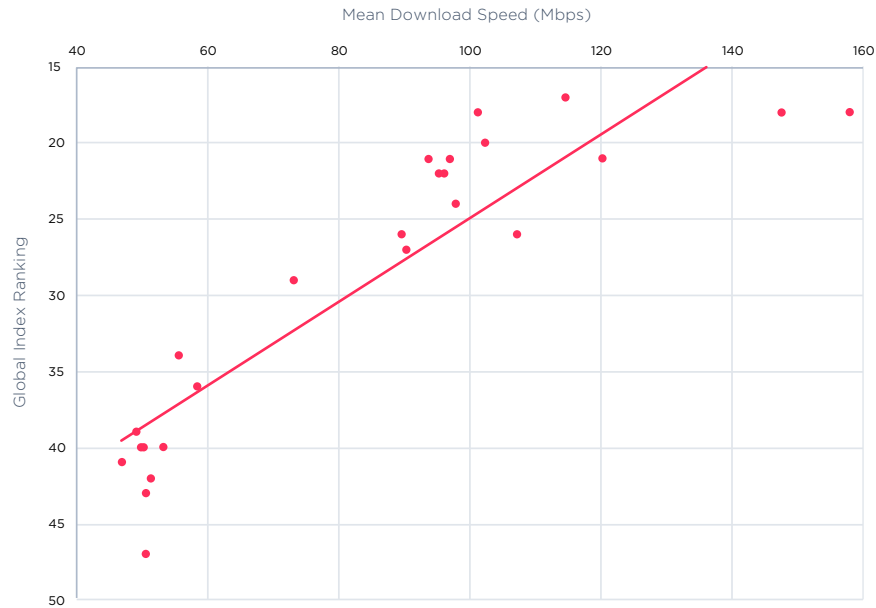
Outcome

Batelco's mission includes investing in forefront technology to best serve their customers. By choosing Cell Analytics, Batelco was able to fulfill a key aspect of their mission — and provide a better network experience to their customers. Batelco saved both time and budget by using crowdsourced data and insights from Cell Analytics to prioritize network improvements. As a result of their customer-centric network improvements, Batelco won the Speedtest Award™ for Bahrain's **Top-Rated Mobile Network Operator** during Q3-Q4 2020. To win this award, Batelco achieved a rating of 4.0 stars in Speedtest Consumer Sentiment surveys.

Batelco also scored the Widest 5G Coverage in Bahrain per Bahrain's TRA Annual benchmarking exercise for the year 2020. All of these accolades were achieved through focusing network improvements and optimization efforts on providing superior service to their customers.

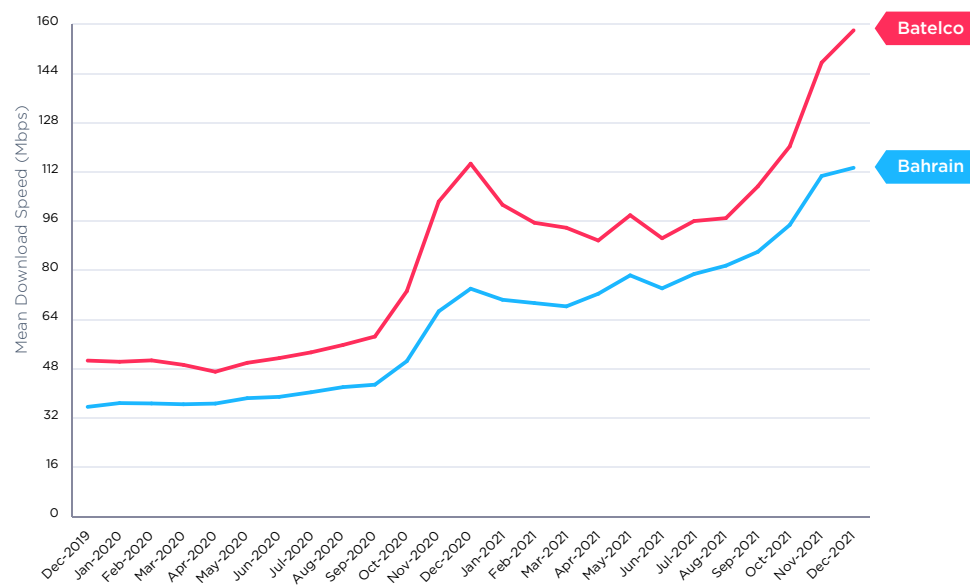
Batelco's network improvements strongly influenced Bahrain's overall national ranking on **the Speedtest Global Index™**, which improved by 30 places in the list of fastest countries on mobile in 2020. The improvements continued throughout 2021 as well. As Batelco's mean download speed increased, Bahrain's Global Index Ranking also increased.

Batelco's Mean Download Speed vs Bahrain's Global Index Ranking Speedtest Intelligence® | 2020-2021

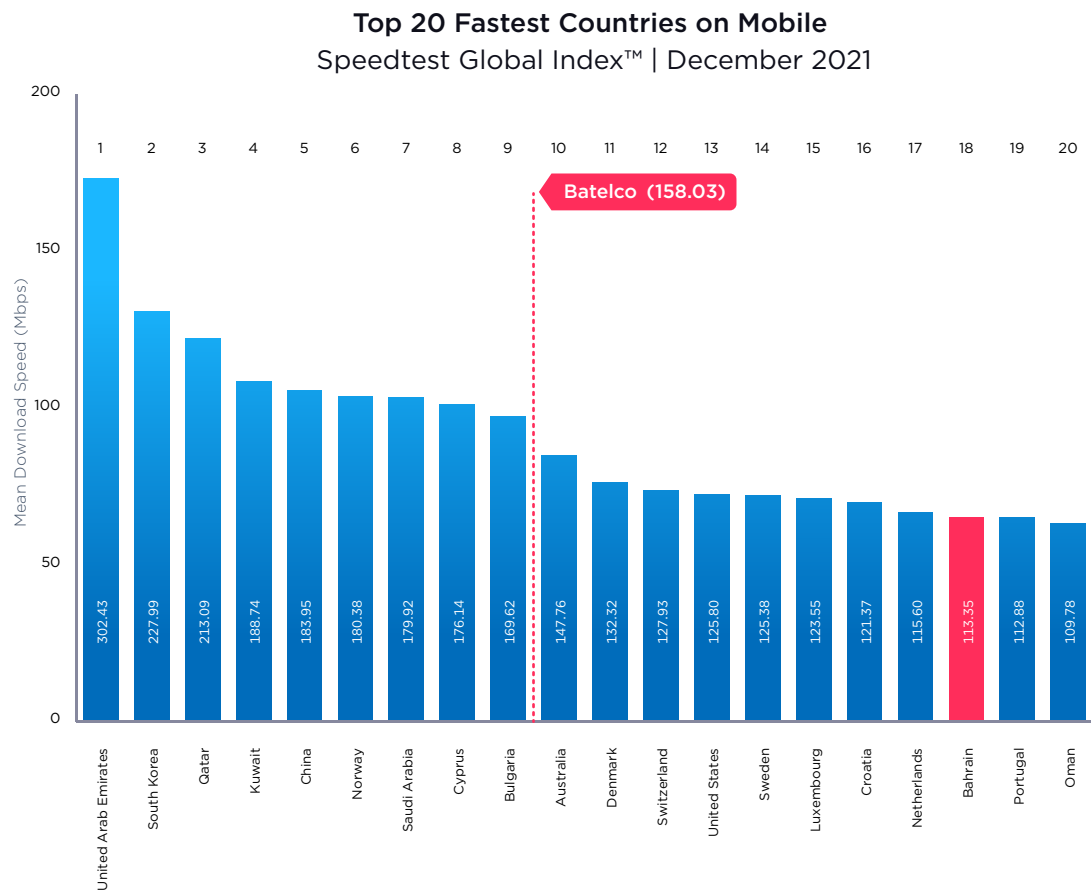


Batelco's mean download speed continued to increase throughout 2021, which consistently lifted Bahrain's national average download speed.

Batelco's Mean Download Speed vs Bahrain's National Mean Download Speed Speedtest Intelligence® | 2020-2021



Bahrain ended 2021 ranked as the 18th fastest nation in the world, heavily impacted by Batelco’s mean download speed of 158.03 Mbps in December 2021.



Batelco’s continuous improvement of their customer experience has cemented their position in this competitive market and Bahrain’s position in the global landscape for network speed.