The text of “Mobil Coverage Methodology” talks about how Speedtest works and what it needs to have a proper and successful operation. It not only measures speed and latency but also collects mobile coverage data, so that Ookla can use this data to analyze cellular connections, applying quality filters and calculating Service and Availability metrics.

First, we have Data Collection. Speedtest allows their Android users to enable or disable coverage scan collection at any time, so when it´s enable, Ookla´s app captures data on the user's experience with mobile networks throughout the day which include information about the mobile network and the connection.

Then, we have Scan Information. This section refers to the different categories that coverage scan provides: Operator information, radio signal, connection, RAN and the device location.

The third point is the data quality filtering, this one mentions some features of how we must perform data filtering, which are the following:

* Subscriber SIM Network: Scans with no valid subscriber network information or those from devices in airplane mode are excluded.
* Unknown Networks: Records from networks with an MCC and MNC code that do not correspond to known operators are excluded.
* Location quality: Locations from scans older than 30 minutes, imprecise within 500 meters, or that do not use GPS or Android’s Fused Location Provider are excluded. Incomplete or false locations are also excluded.
* Date and hour: Scans are sent in batches when the device is on Wi-Fi. Scans received within 48 hours are included, and those send after the 48 hours are excluded.

In the fourth point, we have the Network determination. This one describes three points:

1. On-network and off-network: Ookla determines if a device is on-network or roaming by comparing the subscriber’s network with the active network.
2. Out of service: Devices without a valid cellular network connection and without valid signal information are considered out of service.
3. Availability Methodology: It measures the percentage of users who spend most of their time on a specific cellular technology (e.g., 74% on 4G). Daily timelines are constructed for each device, and the time spent on each cellular technology can be calculated.

As a final point of this lecture we have de Timelines. Raw scans are filtered with Data Quality Filters starting from October 1, 2020, excluding scans from devices with inactive SIM cards or which no have the necessary permissions. The Availability metric classifies a "no service" state as one where the scans show an inactive status.

Some features that support these timelines gives us the idea that a timeline of a device is illustrated showing (A) the time, (B) the duration before summing the daily time, and (C) the percentage of time spent on different cellular technologies. Daily durations are calculated from the timelines by grouping data by device, network, and cellular technology, with a 30-minute limit between scans. The percentage of time in each category is calculated, and the device is assigned to the category where it spent the most time.

The General Service, 4G Service, and Network Service metrics indicate service availability at various locations. Scans are then grouped into tiles approximately 100m x 100m in size, and metrics are considered if at least 50% of the scans within a tile meet the criteria. Only tiles with data from at least two devices are included to avoid distortions.