

Mmwave technology and specifically the 60GHz band is uniquely suited to ensure scalability. The fact that 60GHz dissipates somewhat in the atmosphere due to absorption in oxygen molecules, makes it scalable in urban areas. Multiple access points can be added to a network as needed to serve any number of customers without interference from adjacent links. Further, 60GHz is uniquely fitted to deliver connectivity in urban areas because there is 14 GHz of unlicensed spectrum available. No other unlicensed frequency band delivers this amount of bandwidth. Utilizing the whole spectrum allows for 27.6Gbps (6 channels with 4.6Gbps for each channel) capacity in the spectrum. Thus, 60GHz can simultaneously feed 3Gbps internet, 5G cellular and radio frequency communication services throughout the mesh.

The BarelasGig network can be expanded by adding sites to serve additional customers in adjacent areas. Additional fiber feed can be added and specific components can be upgraded to provide greater bandwidth, as needed. Thus, mmwave technology is highly scalable in any community.

The BarelasGig network is believed to be financially sustainable because of all the donations: the installation labor, the fiber feed, the tower, and installing the tower antennas. With a Stage 2 award the network is believed to be financially sustainable.