The non-stop users demand and the continuous evolution of technologies made researchers and companies hurry up finding solutions to accomplished 5G's goals. Cellular Architecture and Key Technologies for 5G Wireless Communication Networks is a study of a researchers group from different universities and companies that suggest an innovator network solution.

This paper suggests the idea of separate the network in two different, outdoor and indoor network. Energy efficient and coverage demand supports this strategy. Each building will have their own BS (Base station) which means that while we are in indoor areas our signal no longer will go through walls until it gets to the nearest outdoor BS. This is an incredible advantage as the indoor signal will not be damaged and the power can be reduced, as there are not transmission losses. The outdoor network will be set up with large antennas arrays and BS connected via optical fibers that will provide more coverage and capacity.

The proposed cellular structure could be possible thanks to research's works on MMIMOS, spatial modulation, cognitive radio networks, mobile femtocell and visible light communication but not all is done. There are still so many challenging's issues that communication sector has to face to carrying out this strategy.

Finally, the mobile subscriptions increase every year as well as the power of the mobile communication sector. Expectations on 5G communication increase every passing day and this proposal could cover them although it would suppose a huge cost build this cellular structure.

Reference:

[1] C. X. Wang et al., "Cellular architecture and key technologies for 5G wireless communication networks", *in IEEE Commun. Mag,* vol.52, no.2, pp. 122-130, Feb ,2014