Strategies Revealed for Overcoming Municipal Opposition to 5G Deployment by Mind Commerce

Study Identifies Areas for Concern and Compromise for Local Governments and Communities

SEATTLE, WA, UNITED STATES, March 12, 2019 /EINPresswire.com/ -- A recent study by Transaction Network Services, The Race to 5G, indicates that 72% of adults in the United States would be willing to upgrade to a 5G device when available. In juxtaposition to these findings, Mind Commerce has identified that local governments and community leaders generally lack knowledge about quality of life benefits associated with 5G apps and services such as telemedicine and public safety solutions.

There is a need for collaboration between corporate and community interests to identify local benefits for consumers and small businesses. Corporate interests are encouraged to work with local government entities to find a balance between quality of life concerns and economic benefits.

Mind Commerce has also identified substantial misconception relative to 5G capabilities including confusion over the 5G New Radio (5GNR) portion of the 5G Radio Access Network (RAN), which uses millimeter wave (mmWave) signals in the microwave frequency spectrum. Local citizenry often confuse 5G as a whole with the 5GNR component of 5G infrastructure. LTE and prior cellular communications radio equipment use centimeter to meter-sized waves and lower frequencies whereas 5GNR uses a millimeter wave and much higher frequencies.

> “Both Sides of the Issue will Benefit as Local Leaders and Corporate Interests will Better Engage Each Other”
> *Mind Commerce*

Certain telecom equipment vendors plan to provide shared RAN infrastructure (e.g. LTE and 5G on the same RAN equipment), which means that future RAN equipment can selectively support LTE or 5G signals, some of which may be mmWave based.

While 5G deployment will leverage new frequency bands, and will entail a 10 to 100 times expansion in terms of the number of cell sites (most of which will be small cells), much of the 5G macro network will not be mmWave based. Instead, 5GNR will be used largely for fixed wireless solutions in support of non-consumer related services such as enterprise and industrial automation.

It is important to note that the 5GNR radio component has propagation issues due to the high frequency nature of mmWave. 5GNR signals experience fading (signal dissipates significantly over the air, even without obstructions) and other attenuation issues such as cellular radio becoming compromised by solid objects. For example, buildings prevent mmWave radio penetration and small objects, like leaves on a tree, attenuate higher frequencies (associated

with 5GNR) more than lower frequencies.

Because of the 5G attenuation issue, cell sites that use 5GNR will most likely not be able to be camouflaged, as anything that blocks the path of the signal will attenuate it and thus cause signal loss. While MIMO (multiple input/multiple output) enabled 5G RAN antenna arrays compensate for attenuation to a certain degree, as well as other smart antenna capabilities (such as beam-forming), site selection and other antenna-related issues will be problematic as compared to previous cellular RAN installations supporting LTE, 3G, and 2G.

The Mind Commerce study has also identified citizen concerns related to potential ill health effects associated with exposure to mmWave signals. More specifically, a small but very vocal minority of consumers are very concerned about microwave radiation. While many consumers do not understand that 5G will use very low-power radiation (as compared to a microwave oven or even a microwave relay antennas that are higher-powered), some concerned citizens note the existence of studies that indicate harmful effects to living creatures associated with microwaves.

By way of example, an article in a Clallam County, Washington newspaper (Peninsula Daily News), written by reporter Jesse Major, highlights these concerns. In the article, Clallam panel urged to prohibit 5G service, the author states “Many told the commission that they haven’t seen studies showing that the emerging wireless technology is safe and expressed concerns about exposure to electromagnetic fields”, which is Mr. Major’s reference to verbal opposition at county 5G planning meetings on the basis of health concerns related to potential harmful effects of microwave radiation.

Mind Commerce has identified evidence of studies that link the use of high-power microwaves to harmful effects on the human body, but has not found any studies focused on the potential health issues associated with long-term exposure of living creatures to low-power mmWave such as what citizens would be exposed to once 5GNR is deployed.

Overcoming Opposition to 5G Deployment: Corporate and Community Strategies to Drive Implementation with Technology Assessment and Market Outlook provides the reader a better understanding of the issues and identifies strategies for collaboration between the wireless carrier ecosystem and local leaders. It enables the reader to develop effective strategies for engagement to gain support for 5G deployment and operations.

It includes strategies for engaging municipalities and civic leaders about 5G economic and quality of life benefits. Additional insights from primary research, along with recommendations, are found in the report. The report is intended for both sides of the issue as both local leaders and corporate interests will use it to better engage the other party. The report will also help the reader better understand 5G technology and capabilities.

About Mind Commerce

Mind Commerce is an information services company that provides research and strategic analysis focused on the Information and Communications Technology (ICT) industry. Our ICT reports provide key trends, projections, and in-depth analysis for infrastructure, platforms, devices, applications, services, emerging business models and opportunities.

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