Who
is Baicells?
and why do we love LTE?

Baicells is a privately-held, high tech company providing technically innovative LTE wireless broadband access solutions, supporting fixed wireless, and mobile small cells. With a vision to connect the unconnected, Baicells has introduced breakthrough technologies to LTE, like moving a complete LTE system to unlicensed spectrum and building it with an IT based architecture. With Baicells' turnkey end-to-end solutions, it becomes much easier to provide wireless internet within everyone's reach at a very low cost.

In fact, Baicells Technologies is offering LTE at a value that blows away the entrenched myths that LTE is too expensive for WISPs and other small operators, such as small towns and cities or verticals like oil & gas that might be interested in LTE for private networks.

But why LTE instead of Wi-Fi? We'd like to explain the impact of 2 simple issues you may not fully yet appreciate:

NLOS challenges and the benefits of a standard.

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Why LTE?
An Explanation Even Your Investors Can Understand

NLOS (Non-Line of Sight) **Challenges**

Power

In the USA & Canada, regulatory regions require wireless technology to operate at greatly reduced power relative to those operators like mobile carriers who hold expensive licensed bands. Despite this, wireless technologists have created workarounds to service difficult-to-reach populations.

Distance

Wireless signals weaken over distance – a process called “attenuation.” This occurs in a step-like manner, where enough attenuation means the signal drops to progressively lower and lower levels, with each level down reducing the ability of the signal to deliver data. With trees in the way, blocking lines-of-sight, low power signals are both scattered and absorbed by leaves, modulating the signal down to useless levels. Those who can beat NLOS and the associated attenuation by using LTE win in the marketplace.

Design

Unlike Wi-Fi, LTE was designed for outdoor wireless, not indoor wireless local networks. This means LTE signals are able to hold higher modulation levels in the face of more foliage, and do a better job of collecting all the various reflections off leaves to make sense of the signal. In fact, LTE does such a better job that it holds about a 7 dB advantage over Wi-Fi on a per modulation basis, a massive benefit of LTE.

Benefits of a **Standard**

Price

We are all carrying LTE-enabled devices in our purses and pockets. LTE, in just a few short years, has displaced all other mobile technologies. The global drive for all carriers to use LTE for its technological advantages also means the entire globe is unifying around a single standard, and with such mass comes higher profits and lower costs. It also results in more vendor choices, preventing companies from the deadly risk of vendor lock where one vendor holds an operator hostage at the mercy of one company’s limited R&D and customer service.

Innovation

The influx of LTE devices has resulted in massive continuing investments by all parties to bring new services and build new devices. It’s an explosion in innovation and we are only at the beginning of the LTE revolution. Those who get on board now with LTE will be able to take advantage of untold new efficiencies, products, and services that emerge. Over $1 billion is invested annually in LTE R&D, and being standard, every new leap will be backward compatible – meaning no single vendor can put your entire CAPEX investment at risk of obsolescence or by its failings in the marketplace.

Spectrum

New spectrum opened by regulators in the U.S. called the Citizens Broadband Radio Service (CBRS) band (3.55 GHz- 3.7 GHz) will enable small operators to build their own private networks that can have frequency protection similar to what mobile carriers now enjoy in their licensed spectrum. The new CBRS band lets cities and towns and oil field operators, etc. the ability to shed these onerous carrier contracts for the first time by allowing them to build their own private, frequency-protected networks.

What technology will dominate this space? LTE. LTE will be the pervasive choice in CBRS because of its technical advantages outdoors, its vendor flexibility, its growing set of devices, its backward compatibility, and its low cost.