

## A world more connected with real-time, critical information ©

“More Connected”: The thirst for “bandwidth” and “accessibility” is growing at an exponential rate, as we get accustomed to the enhanced data rates and access presently available by our Smart Devices and nearly ubiquitous networks.

**Bandwidth:** With greater demand for streaming services, high-definition video and ever-increasing applications, the need for greater data rates and network capacity is growing faster than the upgrades, such as LTE and others, can provide. The latest advance or initiative popularly termed “5G” appears to have the capability and capacity to meet this demand. These networks will heavily rely upon technologies that involve *millimeter-waves* at their backbone. A very significant progress has already been made in antenna and transceiver technologies for the millimeter-wave portion of this emerging network. QuinStar expects to play a very central and pivotal role in this development and implementation.

**Accessibility:** Network coverage and high bandwidth is not available throughout the planet in any uniform way. There are “bandwidth and access deserts” in the world due to factors such as geographical location, economics and geo-political reasons. Companies and consortiums such as, O3b (stands for “Other 3 billion” – the number of people on planet that have either no access or poor access to wireless or other connectivity), Facebook, Google, Amazon and other newly emerging players are getting increasingly involved in the issues dealing with ease and cost of access. Whether it is a satellite-based network or balloons or other traditional methods, millimeter-wave will play a vital role in completing the connections, i.e., connectivity.

**“Real-Time”:** Our expectations for data or knowledge (information- see below) to be available instantaneously is now permanent part of our lives and even survival. We (whether as casual users, or military personnel or medical technicians) rely upon information or data being available on demand instantaneously. Available data rates or network speed and quality of access have direct impact on achieving this “real-time” information. Latency or delays are things of the past-when it comes to our present needs and expectations.

**“Critical Information”:** Information is power, safety, knowledge, entertainment... and a whole lot more. Critical information is vital for many scenarios, medical, warfare, defense, navigation, critical communications and much more. Data, bandwidth, knowledge, communication... all are part of this “information”. We have become accustomed to having critical information available at all times, all places and under all circumstances. Millimeter-waves will be an integral part of the networks and technologies that will facilitate this.

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