

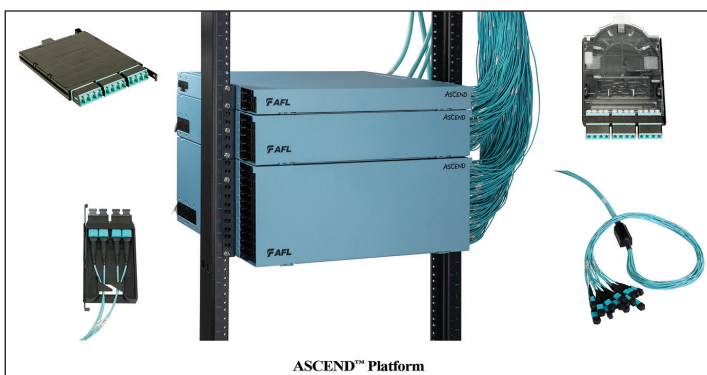
# AFL: Standing on the Edge

5G is not only the leading topic in trade publications, but it has become a major ongoing story in mainstream news as well. 5G promises a great deal through its three main usage cases. But there are many questions as to how we get there. What software and regulations do we need to implement self-driving cars and massive industrial automation? Uncertainty remains over the applications and higher network layers to support these usage cases. But at the physical layer, AFL has built solutions that anticipate these future applications. We do this by first focusing on the things that are certain, and then building in flexibility for the uncertainties.

What do we know about 5G deployments? First, most data will flow over fiber networks. Wireless will work for the last few hundred meters but is not adequate to transmit the massive amounts of data flowing through each radio site and out to the broader world. Second, siting and pathways are expensive and time consuming. 5G sites will be most dense in areas of high population density. But these areas also are the most expensive to emplace new conduits or aerial path-

ways. Permitting for radio sites and pathway emplacement is also difficult, and this won't change either. There will be a premium to place these fibers in the smallest footprints possible.

Unknowns still exist, but we can anticipate them. The most radical opportunities for 5G come from the ultra-low latency communications (ULLC) and massive machine type communications (mMTC) usage cases. We do not know what all the applications will look like, but we can anticipate how the physical network must change over time. For example, ULLC applications will require an in-



creasing move to compute power at the "edge" of the network. Like all applications requiring compute power, we anticipate that the hardware will go through upgrades. New radios

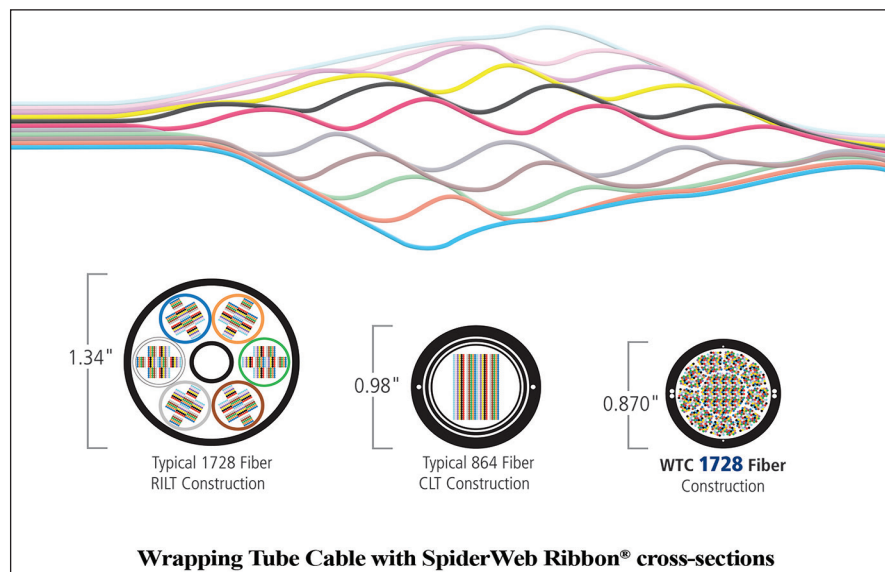


Josh Simer, Service Provider Market Manager

or other endpoints may be required in the access network to support mMTC. Someday, 6G radios will be out. There is a benefit to accommodating these kinds of changes without making expensive changes to cable runs and pathways.

AFL has anticipated this and provides the optical infrastructure to support these needs. AFL's Wrapping Tube Cable offers the highest fiber counts in the smallest diameter available, minimizing the cost of pathway creation. SpiderWeb Ribbon® technology makes subsequent access much easier. The ASCEND™ platform manages the

high fiber counts going into Edge computing, CRAN and Data Center sites today. Its modularity allows for rapid moves, adds and changes as fiber counts increase; as providers implement different protocols such as DWDM, NGPON-2 and beyond; or as hardware is upgraded. AFL also provides splice and test equipment that can handle these future options while remaining compatible with existing networks. Finally, with a range of services from engineering to installation to test & turn-up, AFL ensures our customers can meet the requirements of today, tomorrow and the coming decades.



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