

Information and Communication Technologies

By Robert Tarimo

Balancing Current Needs With Emerging Trends

The information and communication technologies (ICT) industry is fast-paced with new devices and demands surfacing in quick succession, with all the players in the value chain experiencing a balancing act. Infrastructure that supports the ICT industry is in a constant state of flux. There is demand to address current needs of existing infrastructure while reactively and proactively innovating products and services to support emerging trends in an environment of constant change. This is good news. With change comes opportunity.

A recent study from Plunkett Research Ltd. reported the ICT industry will be about a \$5.4 trillion sector in 2014 with approximately 6.9 billion wireless service subscribers. The study states: "This is immense growth from about 4 billion at the end of 2008 and 1.41 billion in 2003. This would indicate 79 people having subscriptions per 100 global population." In addition, the ICT industry remains one of largest employers in the world with 854,800 employees in the US alone during 2013, as reported by the Telecommunications Industry Association (TIA). This data exemplifies the huge economic stakes for those businesses that comprise the ICT value chain.

Wireless growth is one of the strongest trends in the market. As the network expands and more data is transmitted, it will become increasingly important to heighten the number of wireless connection points that people have access to. If spectrum is used up as quickly as it becomes available,

then more infrastructure will be required to meet demand. This is an ongoing challenge for service providers.

As offered by Craig Wigginton, vice chairman and US telecommunications leader with Deloitte & Touche LLP, "The big challenge—which also presents a major growth opportunity for the sector—is that consumers are addicted to connectivity and speed. The ongoing expansion of the mobile ecosystem, coupled with demand for high-bandwidth applications and services, is keeping pressure on the industry to increase the availability and quality of connectivity. Carriers will continue to pursue technological advancements to handle demand, including offloading some mobile bandwidth needs to Wi-Fi, which is proving an effective complement to mobile networks. At the same time, long-term spectrum availability, spectrum efficiency, small cells and continued backhaul improvements are likely to be a key focus to assure continued mobile broadband momentum."

Finding Balance: In With the Old, in With the New

This is good news to companies that provide wires, cables and accessories to the ICT industry. While wireless sounds like a bad thing for cable, it isn't. As more towers go up, more cable is needed to connect those towers. The wire and cable industry isn't seeing the same growth it experienced with 3G builds because newer cables were typically needed for this shift, but existing 3G coaxial cables seem to be easily capable of handling 4G networks. In addition, fiber

to the antenna (FTTA) is becoming more popular as wireless carriers build new towers for 4G coverage. FTFA is bringing new cable designs to the industry where power and telecom come together to provide data and power to tower top antennas. From a material standpoint, while fiber continues to replace copper, there continues to be growth in copper twisted pair. Copper continues to bring value in data centers for ease of connection, flexibility in signal frequency acceptance and for short cables—100 G Ethernet, for example. In addition, the residential market appreciates copper twisted pair for home networks because it is easy for do-it-yourself modification. In general, copper is still needed as data centers grow and housing starts continue to expand.

The ongoing necessity for wire in the wireless world is aptly stated in an article in Forbes' "The Future of Wireless is Wired." "Scarcity of wide-area spectrum will cause a significant migration towards more local area networks such as femtocells (small, lower-power radio transmission stations) and wi-fi, and will eventually find a relay in the infinitely expandable, wired backhaul—the link to a provider's core network. Wired fiber infrastructure can still carry vastly more data than any wireless system."

Trends Influence Cable Compound Design

For compound suppliers such as Dow Electrical & Telecommunications (Dow E&T), this means ongoing interest in compounds that provide benefits to copper-based and fiber-based networks. Dow E&T

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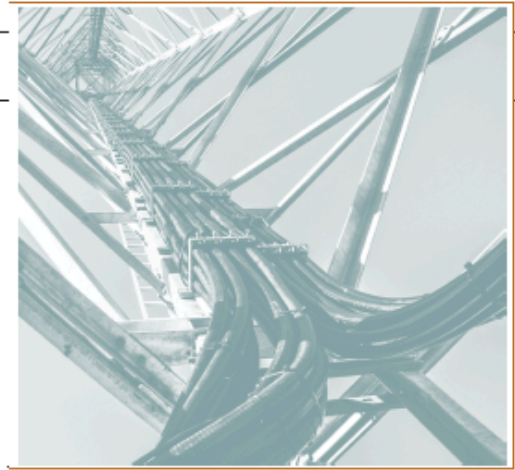
focuses on several key attributes including low-loss copper insulation, improved protection technologies for fiber, and better ease of installation for cables made with Dow E&T products. First, Dow E&T is trying to create solutions for copper that reduce signal loss. Whether it's for radio frequency (RF) cell tower coaxial cable or high frequency category cable for data centers, Dow E&T's research is focused on delivering solutions that reduce signal loss and attenuation. This speaks to continued innovation that addresses current/ongoing needs in the industry. Dow E&T's recent launch of a new low-loss insulation for RF cable used in cell towers should bring considerable advantage to new tower upgrades and maintenance of existing infrastructure. Anticipating the growing use of fiber, Dow E&T also is working on jacketing and buffer tube products that reduce field shrinkage of cable layers and protect the fiber optic signal from external temperature changes. Finally, with an eye on solutions that are friendly to the environment, Dow E&T has recently introduced a

polyolefin-based, flexible jacket material that can replace flexible PVC for outdoor cable applications.

Building Momentum for the Future

The future of suppliers counting on success in serving the ICT industry will require commitment to a solid base in research and development, and a company culture that allows for fast, agile movement in a quickly-changing environment.

Perhaps the biggest balancing act is the challenge of understanding the differences between, as well as the value attached to, commodity products and specialties. There is room for both. Commodities and specialties can coexist because of the ongoing use and servicing of heritage infrastructure as well as networks supported by new wireless growth. The ICT industry provides a global opportunity for those organizations that see the big picture—learning from yesterday, providing for today and innovating for the future. Let's get wired. **UP**



About the author: Robert Tarimo is the associate marketing director for the telecom platform in the Dow Electrical & Telecommunications (Dow E&T) business. In addition to long-term growth and profitability, Tarimo is spearheading efforts to explore new areas of growth in landline, data center and mobile applications, as well as strengthening Dow E&T's current product portfolio.

Tarimo joined Dow in 1996 as a marketing analyst, responsible for managing numerous business development activities. In 2007, Robert joined the E&T business as EMEA marketing manager, accountable for driving power and telecommunications marketing strategies and application developments across the region, with additional marketing responsibility for the global power transmission segment. He assumed his current role in 2014.

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