The Indian telecom market is witnessing a major surge in data uptake. This has created a significant demand for telecom infrastructure, especially on the backhaul front. {K2Splitter} The Indian telecom market is witnessing a major surge in data uptake. This has created a significant demand for telecom infrastructure, especially on the backhaul front. The optical fibre cable (OFC) industry is, therefore, looking up with investments being driven by the growing demand for broadband services, proliferation of next-generation devices and greater deployment of last mile networks. Government initiatives such as the BharatNet and cable TV digitisation projects are also contributing to its growth.

tele.net recently organised its fourth annual conference, OFC Networks in India. The following section comprises the key highlights of the conference…

Current status

The OFC industry is currently characterised by significant capacity on trunk and national long distance (NLD) routes, but there is very little capacity in the access routes. Among the telecom operators, Bharat Sanchar Nigam Limited has the longest OFC network of about 650,000 km. Other operators that have significant capacity are Reliance Communications, which has an OFC network of 190,000 km, Bharti Airtel which has 175,000 km and Vodafone India with 120,000 km. Despite the major operators having a considerable NLD footprint, the wireline subscriber growth in both rural and urban areas has remained more or less stagnant. The number of wired broadband subscribers grew by less than 0.6 million between December 2013 and December 2014.

Breaking down the OFC market into fibre access and other fixed technologies offering broadband access such as fibre-to- the-home (FTTH), it is evident that these form a minuscule proportion of an already limited fixed broadband access user base. There are only 110,000 FTTH subscribers as against the 250 million internet subscriber base. Further, a significant portion of metro last mile fibre and middle mile fibre is aerial, indicating that the industry has not invested significantly in the buried carrier-grade type of infrastructure. Experts are of the view that aerial fibre is not suitable for long-haul networks. Moreover, at present there is no strong triple-play (voice, video [TV] and data) fibre player in the market.

Growth drivers

The biggest growth factor for the OFC industry is the data deluge currently being witnessed by telecom operators. Data traffic has, on an average, doubled year on year for the past three years. In fact, the growth is even higher in dense urban areas. However, the backhaul capacity required for meeting this demand is insufficient. At present, tower backhaul operates mainly on microwave but this capacity is quickly getting exhausted, leading to a deterioration in the quality of service. Fixed connectivity can help operators resolve wireless delivery challenges. Currently, most operators in India have only 12-15 per cent of their sites fiberised. On a pan-Indian level, less than 50,000 sites have fibre backhaul against a tower base of close to 500,000 sites. In order to offer a better 3G and 4G user experience, operators need to fiberise at least 33-50 per cent of their towers. This presents immense growth opportunities for the OFC industry. Further, the emergence of new architectures such as Wi-Fi offload and active radio frequency (RF) solutions that require low latency high capacity fibre access up to the RF components is expected to drive industry growth.

Challenges remain

Large-scale fibre roll-out has been facing several challenges. Some of the major issues are listed below:

- **Right of way (RoW):** Obtaining RoW for laying fibre is an expensive and onerous task. There are no national regulations in place, nor a single-window clearance mechanism for obtaining RoW. Even at the local level, there is no single agency that can be approached for getting RoW clearance. The Telecom Regulatory Authority of India (TRAI) had recommended to the central government that fibre ducting should be made mandatory in all infrastructure projects such as roads, bridges, highways and railways. However, this proposal is yet to see the light of day. Further, the roll-out is seasonal in nature, with the most preferred time being between October and May. This increases the time and cost required for laying fibre.
- **Unproven business model:** The viability of the stand-alone FTTH model remains uncertain, even in dense urban areas. Most operators have shied away from making large-scale investments in developing such a model. According to a study carried out by TRAI, the monthly ARPU required by an operator to make a flat- bed arrangement with 20 per cent connected homes (out of a total number of homes passed) is greater than Rs 7,000. Similarly, the ARPU required for a high-rise arrangement is about Rs 1,425.

In sum, fibre with a wireless tail is what the industry needs to adopt for achieving the data

connectivity speeds, throughput and the customer experience that people are expecting. However, there is still a need to establish a viable business case for attracting investments into the OFC market.

Based on a presentation by Kunal Bajaj, CEO, Bombay Gas Telecom