

STRUCTURED CABLING

Getting Back on Track

The structured cabling market seems to be coming out of its degrowth phase

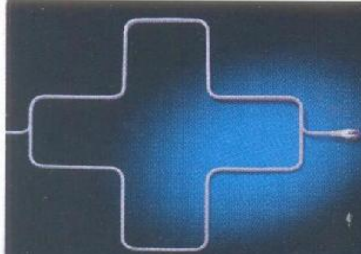
Mass enterprise IT adoption has resulted in an increase in enterprise data. A number of developments in the Indian enterprise are driving the need for a robust cabling infrastructure. Organizational growth, use of converged networks, new enterprise applications, demand for data centers and network virtualization have only increased the importance of structured cabling solutions.

Market Dynamics

The structured cabling market in India witnessed a double digit degrowth in FY 2009–10 for the second consecutive year. The Indian structured cabling market stood at Rs. 1260 crore in FY 2007–08. In FY 2008–09 the market witnessed a decline and was estimated at Rs. 950 crore. The trend continued in FY 2009–10 with the structured cabling market experiencing a decline to Rs. 800 crore from

FY 2008–09.

2010–11 promises to reverse the trend and 2011–12 is expected to see a 15–20 percent growth. This is supported by the fact that Q3 and Q4 of 2010 showed signs of revival with the IT and BPO sectors opening up and albeit cautious, commenced invitation of RFPs from the vendors. There is now seen a huge capacity expansion in the IT companies not only in the Indian market but also in the global

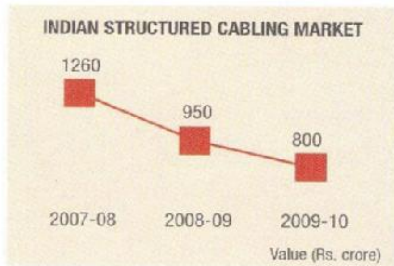


ABOUT R&M

R&M is a leading Swiss supplier of passive cabling solutions for high quality communication networks. Our copper (Cat.5 and Cat.6, UTP/shielded cables and components) and fiber optic (cables, patch panels and cords, enclosures etc.) systems guarantee maximum network availability. With innovative, user-friendly products and forward-looking system design, we ensure that networks are sustainable, in keeping with our motto of "Convincing Cabling Solutions".

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markets. The healthcare and insurance closures in the US companies has started. The IT companies which were under major cost cutting pressures are now looking to invest in equipment. The European companies are also exhibiting a similar trend. The BFSI sector continues to look upwards. 2009–10 did not see large projects with SMEs being the focus area.

In a tier-wise classification of vendors, Tyco Electronics led the market and is placed in Tier1 with Rs. 300 crore worth of sales in 2009–10. Digilink and Systimax Commscope are placed in tier 2 of our classification. Tier 3 of our classification includes Molex, ADC India and R&M. Tier 4 is accounted for by Panduit and Belden. Other players in the market include Nexans, Tacker, Siemon, TVS ICS, PDR, Finolex, Futurecalls, Sterlite Technologies, and Dax Networks.

“Enterprises are increasingly trying to work on zero downtime platforms to counter competition, they have realized the importance of a well designed cabling infrastructure and are ready to make investments and

Tier 1	Tier 2	Tier 3	Tier 4	Others
Tyco	Systimax, DIGILINK	Molex, ADC India Communications Ltd, R&M	Panduit, Belden	Nexans, Tacker, The Siemon Company, TVS ICS, PDR, Finolex, Futurecalls, Sterlite Technologies, and Dax Networks

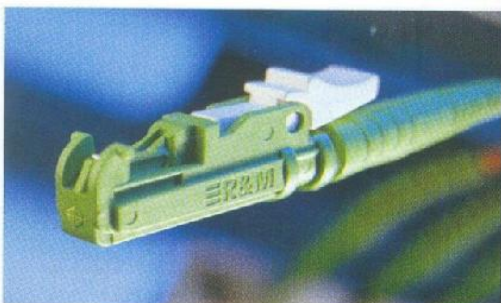
deploy solutions that would ensure maximum up time. This is especially true for enterprises and business verticals, like BFSI and telecom, that work in data-centric environments where downtime result in direct loss of revenue. These enterprises typically deploy large network infrastructures where performance wins over the price (of deployment) every time. They are more open to new technologies that future-proof the network while ensuring lowest down-times. In this segment you will see the highest deployment of high-bandwidth, high speed networks like 10G infrastructure, high density plug & go solutions like MPO, MRJ21 that are easy to install, manage and give far more port density in the rack than regular solutions. This is where you see most number of intelligent infrastructure solutions as well,” opines **K.K. Shetty, Director Sales, Tyco Electronics.**

Technology Trends

India is increasingly adopting global standards for data center design and installation. The standards promote network infrastructure that includes 10G based Categories 6A and OM4 fiber. These provide infrastructure platforms for bandwidth intensive business applications. Fiber is becoming an increasingly important medium for use within network infra-

structures. It is the defacto standard for network backbones. A significant new fiber standard ‘OM4’ offers greater reach and higher bandwidth for multi-mode networks. Parallel optic standards are progressing quickly and 40G and 100G technologies will soon be ready to meet the demand for increased bandwidth. Customers now frequently deploy 12 and 24 fiber count cables where as 2 or 6 fibers were used in the recent past. This is an indication that customers are anticipating the higher speed capabilities that parallel optics will deliver.

Highlighting the importance of standards, **Milind Tamhane, Vice President—ITS Sales, DIGILINK** says, “Technology is the driving factor for any business. The Indian data center technology standards are driven by the basic concepts of TIA-942 Telecommunications Infrastructure Standard for data centers, IEEE 802.3 HSSG, USGBC and LEED. i.e. planning, location identification, electrical and power requirements including UPS and batteries, air conditioner requirements including cooling and airflow controls, fire protection, security systems, cabling architecture, racks and cabinets for space consideration and equipment. TIA group is also working on TR-42.7 (Copper Cabling Components), it will draft a liaison to the IEEE requesting



E-2000 FIBER CONNECTOR

The optimum transmission properties of this push-pull connector are based on high-precision ceramic ferrules, adapted interfaces for improved insertion and return losses, and APC 8° ferrules for high-return loss requirements. The self-closing screen not only provides protection against dust and damage, but also protects your maintenance personnel from high-energy laser light.

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"The **markets** will definitely **scale up** this year as per the **trend** seen in the **past two quarters**. Projects in the **manufacturing** domain, **telecom, hospitality, government, PSUs** and education have **ensured** that **recovery** is **faster** in India." Chintak Dalal, National Sales Manager Premise Networks, Molex India Private Limited

information on pending applications and how cabling can impact these initiatives. IEEE 802.3az (Energy-Efficient Ethernet) is a task group already working on the application side in coordination with TIA US Green Building Council's (USGBC) Leadership in Environmental and Energy Design (LEED) rating system focuses on various divisions of the Construction Specifications Institute's (CSI) MasterFormat Division List. Cabling is proposed to be addressed in Division 27—Communications. BICSI has also started an effort to get the USGBC to recognize Division 27".

A notable trend has been the announcement for availability of 10Gbase-T solutions from major equipment vendors. This is notable because these products now meet or exceed goals for size and power consumption. This paves the way for mass adoption for high density switching. It is clear that 10Gbase-T is delivering on its promise to bring high bandwidth to high volume applications at low prices.

"Another development will be the higher port counts on panels to support increasing network density. At the same time, green initiatives will remain popular in data centers. Even though structured cabling products do not emit heat or consume energy, proper cable management and energy efficiency leads to reduced energy consumption in the data center." says Dileep Kumar, Director, Product Management, ADC India Communications Ltd.

The adoption of intelligence within the physical layer has increased in recent times. Achieving maximum network uptime to run mission-critical applications requires attention to all aspects of good network housekeeping. With links in the data center

numbering in the thousands, and with the density of connected devices becoming more difficult to physically trace, this good-housekeeping effort includes a view into physical layer connectivity. Intelligent physical layer management (IPLM) systems provide this visibility. These systems map, monitor, and manage real-time patch-field connectivity, and continuously record networked asset movements and configuration changes occurring throughout the enterprise and data center. IPLM systems are being used for more than just monitoring of ports and cords, and are adding additional value by helping network managers optimize network capacity, improve asset tracking, and enhance network security.

The Cat Fight

Cat 6 is the dominant cabling solution across all industry verticals. Despite the advantages of using category 7A cabling like higher bandwidth of up to 600 MHz, suitability for installing in strong RFI and EMI environment, individual pair shielding, and lower cost than using a fiber LAN; enterprises are not yet willing to invest in Cat 7A.

"Cat7 A is not such a new technology. In fact, Tyco Electronics was the first company to install a Cat7A network in India way back in 2005, and despite being 10G compliant this technology is yet to take off in a big way. The reason for this is not that the Indian market is not prepared for STP solutions or that there is no demand for STP yet but because Cat7A installation turns out to be cumbersome process. Cat7A cables are heavy with much larger cable diameter than Cat6A STP cables which are also 10G compliant and currently widely in use in India for 10G backbone cabling.



FIBER OPTIC RACEWAY SYSTEM

This system is suitable for separate and protected cable guidance in data centers and central distribution facilities of network operators. It can be installed in raised floors as well as above racks. The Raceway System modules can be easily connected by snapping them together, no additional tools are necessary.

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As with any technology, there **needs** to be clear **long term business advantage** to drive a particular **technology** toward **mass market** acceptance. Globally as well as within the India market the **advantage** of using **shielded solutions** over **unshielded solutions** is still to be proved

Managing and termination of these cables (Cat 7A) require a lot of time and expertise which could otherwise be better used in installing an easier to use cabling system," says Shetty.

Shajan M George, Technical Director India, RO-IND, R&M India Pvt. Ltd. agrees, "The use of CAT 7A technology is predominantly in industries where high volumes of data are transmitted (e.g. animation). We have sold this technology to some of our customers and hence feel it is not a technology of the future. The standard UTP cables face issues with alien cross talk and so today we have seen many clients preferring STP cables, where this problem is addressed."

D.S.Nagendra, General Manager—LAN, Nexans differs, "The Cat-7A STP is gaining momentum. Cat-7A primarily delivers 40G on copper which is seen as ideal in the data centre build-up; and Cat-6A/RJ-45 has a technology barrier of 10Gig. The excellent feature of the Cat-7A, GG-45 connector is the design wherein it allows a technology upgradation path that is backward compatible with the existing Cat-5e/Cat-6/6A solutions and offers a great RoI to the enterprise owners."

Dr. Ispran Kandasamy, Vice President Sales, Enterprise Asia Pacific, ComScope Enterprise Solutions Division opines, "As with any technology, there needs to be clear long term business advantage to drive a particular technology toward mass market acceptance. Globally as well as within the India market the advantage of using shielded solutions over unshielded solutions is still to be proved, as evidenced by the dominating market share of UTP solutions in most countries."

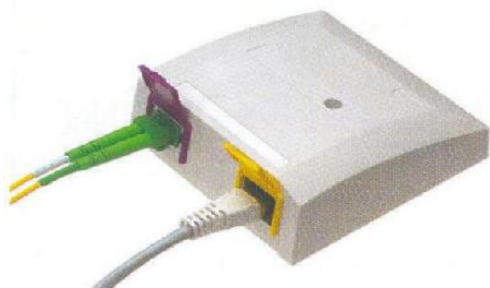
Challenges

The price of copper has been fluctuating quite a bit in the last one to two years. During recession it had plunged very low which had forced vendors to lower the prices of copper cables in order to pass on the benefit to the customers. This resulted in lowering the value of the already shrinking market. However, post recession, the prices of copper have again gone up. This has forced vendors to increase prices or face shrinking margins. Most vendors have already increased prices.

Vinay Agarwal, President and CEO, TVS Interconnect Systems Ltd (TVS ICS) agrees, "Undoubtedly, the challenge remains predicting the unstable copper prices and working out a strategy to maintain steady prices to customer."

Future Outlook

While the western markets have plateaued, the Indian structured cabling market is still on a growth phase and is expected to look up in 2010-11. Concludes **Gautam Lunkad, Director—Sales & Marketing, PDR Videotronics India Pvt. Ltd.**, "Despite the economic recession prevailing in the global markets, the SCS market in India has continued on a growth path, although slower than the rate achieved before 2008. The rapid proliferation of the wireless technology and a widespread belief that the wireless technology will eventually render physically structured cable technology redundant notwithstanding, the SCS industry is expected to prosper over the foreseeable future and beyond. The SCS is expected to maintain this primacy for a long time in the future, though wireless will also gain an increasing market share, especially in cases where mobility is desired." ■



HYBRID COPPER/FIBER OUTLET

The Fiber Optic Splice Outlet is a wall outlet with four ports and integrated splice storage for optical fibers. The ports can be fitted with two LC duplex, SC or SC-RJ connector sockets. The R&M outlet also accommodates a standardized Cat. 5e or Cat. 6/RJ45 connection module, allowing the hybrid use of fiber optic and copper cabling. This ensures maximum functionality in minimal space.

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