

The BBP Top 100 for 2007

This year's leaders in the fiber market continue to innovate and to drive FTTx deployments

Want evidence that our industry continues to evolve? Look no further than the BBP Top 100. Three years ago, we gave special emphasis to organizations with the guts to deploy fiber to the home – specific housing developers, for instance, and VoIP providers. Last year's list still included many technology companies that certainly enabled fiber builds, but whose emphasis was deeper in the network – bringing fiber to the neighborhood, for instance, or specializing in carrier Ethernet. We admired their network management technologies and their contribution to First Mile fiber.

But the bar continues to rise. Size still matters, but to make this list this year, innovation and a specific commitment to fiber – especially fiber to the home – counted a lot more. Thus, some of the world's largest telecommunications equipment suppliers dropped off the list this year – Fujitsu and Siemens among them (although a Siemens spinoff to Nokia made the cut). Dropped were companies that have been true innovators in carrier Ethernet, such as WWP, but that are no longer as prominent in FTTx-specific products and services. Some firms in the same space are missing simply because they were acquired – Entrisphere, Stratos, and Netcentrex among them. Others are gone because while their products – power backups, for instance – are vital to fiber, FTTH accounts for a small part of their overall business.

At the same time, Occam Networks and Zhong, also concentrating on carrier Ethernet, made the list this year after being passed over in 2006. Why? Both companies' products and services are showing up in many new fiber-to-the-home deployments.

As for service providers, Zoomy and Connexion Technologies have been joined by firms like LTS Group. Tenvera made the list last year as our smallest company – it was just getting started. It remains on the list, confirming our faith in its management and business plan. Some larger telcos such as Shentel and SureWest – and, of course, Verizon – continue on the list, partly for their innovative business plans and partly for the sheer amount of money they are pouring into fiber networks, money that stimulates smaller innovators and helps to drive down deployment costs for everybody. Just two years ago, we honored cable companies and SBC (not AT&T). No longer.

Note that we also tend to be North American-centric. NTT in Japan runs neck-and-neck with Verizon as the worldwide leaders in capital investment as they build out huge fiber networks. But although NTT uses many American products, our mainly American readers are interested in NTT more as providing a business model to study than as a partner. We also see innovative new companies coming into the service provider business – companies like DirecPath (which missed because it is still

mainly coax) and Hiawatha Broadband Communications.

Other tough calls for us along the international fault line were companies like Prysmian – a major fiber and copper cable vendor worldwide (it was spun out of Pirelli) that is expanding its fiber business here, selling such products as its blown fiber and massive fiber ribbon cables – but which has been making a bigger FTTx impact in the US only in the past year or so. It didn't make the Top 100 this year, but is definitely in our sights for the future.

We see more prominence in the years ahead for training companies – Light Brigade was added this year – and for firms that produce equipment and software meant specifically for network monitoring to ensure delivery of IPTV and other bandwidth-hungry, high-QoS services. Thus, companies like IneoQuest (specifically in network monitoring) missed this year, but rate increased attention for the years ahead. Also on our watch list are security companies like InGrid and LenSec. They were not quite fiber-specific enough to make the list this year, but their services help enable business plans for new First Mile fiber.

In short: the target continues to become tougher to hit. Fiber has continued to mature. Today, thanks to many companies, the cost of fiber-optic deployments is half what it was a year ago – and a year ago it was half of 2005 costs. Already this year, Corning has announced a new tough, bendable fiber that will cut costs again, especially in MDU deployments.

Demand for broadband content is also growing fast. The technology risk compared to coax and other competing broadband approaches was nil last year. Now, the risk of NOT deploying fiber is real, and increasing – just look at AT&T, which has seen disappointing penetration for its FTTN network and is rumored to be considering FTTH and FTTC overbuilds starting soon – perhaps later this year.

For us, the key tiebreaker question, as always, was this: Will this company make a difference in the fiber broadband industry in the coming year? To put it another way: Would the industry suffer if this company did not exist?

Judge for yourself. And let us know about organizations – large and small – you think might make a difference a year from now. Your nominations led us to examine more than 50 companies this year, and more than a half-dozen made the list – companies we might not otherwise have known about.

About the Authors

Our Top 100 list was researched by Marianne Cotter, Rachel Ellner and Kassandra Kania, supervised by Telecom Editor Masha Zager and overseen by Editor-in-Chief Steve Ross. Suggestions for next year? E-mail steve@broadbandproperties.com.

Cabinets, Enclosures (OSP)

These firms supply “outside plant” equipment including hubs, ducts, connectors and boxes for broadband. BBP Top 100 firms in bold.

Company Name	Web Address
3M Company	www.3M.com/telecom
ADC	www.adc.com
ADTRAN	www.adtran.com
AFL Telecommunications	www.afltelecommunications.com
Alcatel-Lucent	www.alcatel-lucent.com
American Power Conversion (APC)	www.apcc.com
APA Cables and Networks	www.apacn.com
Calix	www.calix.com
Channell Commercial Corporation	www.channellcomm.com
Charles Industries, Ltd.	www.charlesindustries.com
Cisco Systems and Cisco Linksys	www.cisco.com and www.linksys.com
Corning Cable Systems	www.corningcablesystems.com
Emerson Network Power	www.emersonnetworkpower.com
Emtelle	www.emtelle.com
Ericsson	www.ericsson.com
Fujitsu Network Communications	us.fujitsu.com/telecom
Leviton Manufacturing	www.leviton.com
LS Cable	www.lscable.com
Motorola Broadband (BCS) and Canopy	broadband.motorola.com (BCS) and motorola.canopywireless.com (wireless and BPL)
Nokia Siemens Networks	www.nokiasiemensnetworks.com
Nortel Networks	www.nortelnetworks.com
OFS	www.ofsoptics.com
Ortronics/Legrand	www.ortronics.com
Pico Macom	www.picomacom.com
Preformed Line Products	www.preformed.com
Prysmian	www.prysmian.com
RadUSA (RAD Data Communications)	www.radusa.com
SENKO Advanced Components	www.senko.com
Sumitomo Electric Lightwave	www.sumitomoelectric.com
TeleCrafter Products	www.telecrafter.com
Telect	www.telect.com
Tellabs	www.tellabs.com
Terawave	www.terawave.com
Tyco Electronics	www.tycoelectronics.com
Zhone Technologies	www.zhone.com

Fiber and Fiber Cables

These firms supply optical fiber for fiber-to-the-home deployments. BBP Top 100 firms in bold.

Company Name	Web Address
3M Company/Communication Markets Division	www.3M.com/telecom
AFL Telecommunications	www.afltele.com
Alcatel-Lucent	www.alcatel-lucent.com
Belden	www.belden.com
CommScope	www.commscope.com
Corning Optical Fibers, Corning Cable Systems	www.corning.com, www.corningcablesystems.com
Draka Comteq	www.draka.com
Emtelle	www.emtelle.com
Ericsson	www.ericsson.com
Fiberoptic Systems	www.fiberopticsystems.com
General Cable	www.generalcable.com
Nexans	www.nexans.com, www.nexansinterface.com
Optical Cable Corporation	www.occfiber.com
Optical Fiber Solutions (OFS)	www.ofsoptics.com
Prysmian	www.prysmian.com
Sumitomo Electric Lightwave	www.sumitomelectric.com
Timbercon	www.timbercon.com

ing sensitivity. Its enhanced macrobending loss characteristics guarantee that the 1625nm window (L-band) will be available for future bandwidth expansions. In 2006 Draka had net sales of \$3.39 billion and 9,145 employees.

Member, FTTH Council.

36. EMBARQ Logistics

www.embarqlogistics.com
913-791-7000; 800-755-3004

Key Products: Telecommunications equipment; logistics, engineering, integration and deployment services

Summary: EMBARQ Logistics, headquartered near Kansas City, Kansas, is a supply chain integrator serving network service providers, manufacturers and resellers throughout North America. Formerly known as Sprint North Supply, the company offers expertise in logistics, engineering, integration and deployment, as well as telecommunications equipment. EMBARQ stocks more than 30,000 products from more than 1,500 manufacturers, and maintains distribution centers nationwide. The FTTH equipment carried by EMBARQ includes fiber optic cabling, central office equipment, fiber distribution systems, network installation solutions and customer

premises equipment. Founded in 1905 as Union Electric in Abilene, Kansas, the company has about 1,000 employees and revenues of \$530 million in 2006. It is a subsidiary of EMBARQ, a Fortune 500 company with \$6.4 billion in annual revenues in 2006. EMBARQ deployed the United States' first all-digital fiber optic network as well as an award-winning Tier 1 Internet backbone. **Member, FTTH Council.**

37. Emerson Network Power

www.emersonnetworkpower.com
440-246-6999; 800-800-1280

Key Products: AC and DC power systems, precision cooling, outside plant solutions, racks and integrated cabinets, embedded power and computing, connectivity

Summary: Emerson Network Power, based in Columbus, Ohio, is the global leader in enabling Business-Critical Continuity – the assurance that critical technology investments will not fail due to power loss and disrupt a company's business. Emerson Network Power, a business of Emerson, serves telecommunications networks, data centers, health care and industrial facilities worldwide. Its power solutions include inbound power, connectivity, power supplies, power systems

64. Optical Cable Corporation

www.occfiber.com

540-265-0690

Key Products: Fiber optic cables

Summary: Optical Cable Corporation is a manufacturer of fiber optic cables primarily sold into the enterprise market, and the premier manufacturer of ground tactical fiber optic cable for the US military. Founded in 1983, Optical Cable Corporation pioneered the design and production of fiber optic cables for the most demanding military field applications, as well as fiber optic cables suitable for both indoor and outdoor use. The company's current broad product offering is built on the evolution of these fundamental technologies, and is designed to provide end users with fiber optic cables that are easy and economical to install, provide a high degree of reliability and offer outstanding performance characteristics. Optical Cable Corporation sells its products worldwide for uses ranging from commercial and campus installations to customized products for specialty applications and harsh environments, including military applications. The company manufactures its high quality fiber optic cables at its ISO 9001:2000 registered and MIL-STD-790F certified facility located in Roanoke, Virginia.

65. Optical Fiber Solutions (OFS), a Furukawa company

www.ofsoptics.com

770-798-5555; 888-342-3743

Key Products: Optical fiber, optical cable, optical connectivity products including fiber distribution hubs, and specialty photonics

Summary: OFS, based in Norcross, Georgia, was formed in 2001 by Furukawa Electric Co., Ltd., which purchased the Lucent Technologies Optical Fiber Solutions business from the former Bell Labs spinoff. Under Bell Labs, in 1976, OFS was the first commercial volume producer of optical fibers. The company also counts numerous other firsts including developing the first application-specific fiber, the first optical connectors, the first ribbon cables and the first attenuators. OFS has four divisions – Optical Fiber, Optical Cable, Optical Connectivity and Specialty Photonics – plus OFS Labs in Murray Hill, New Jersey, which continues some of the research heritage of Bell Labs. The solutions it has developed to help customers increase their capacity for video, voice and data transmission include AllWave Zero Water Peak Fiber; Laser-Optimized Multimode Fiber for delivering 10 Gbps at distances of 550 meters and beyond; TrueWave Nonzero Dispersion Fibers for applications that require ultra-long distance and high speeds; and FLEX bend-tolerant fibers for on-premises installations. The OFS manufacturing plant in Norcross is one of the world's largest fiber optic manufacturing facilities. The company also operates other facilities in Connecticut, Georgia,

New Jersey and Massachusetts, as well as in Denmark, Germany and Russia. Furukawa Electric is a multibillion dollar firm founded in 1884. **Member, FTTH Council.**

66. Optical Entertainment Network

www.fision.net

713-357-9600

Key Products: FISION triple play service

Summary: Optical Entertainment Network (OEN), based in Houston, Texas, is a triple play (voice, video and broadband Internet) service provider to residential and commercial customers in Houston, the nation's tenth-largest TV market. The company's flagship FISION offering, launched in February 2007 over fiber-to-the-home networks, offers up to 10 Mbps symmetrical high-speed Internet connections; VoIP local and long distance services; and entertainment programming that includes more than 400 linear channels, video on demand, and DVR service. Additional services such as gaming, videoconferencing and targeted advertising are planned. OEN has signed the largest number of IPTV carriage agreements to date, acquired directly from content providers, and it has developed a business model that will enable it to license content to other FTTH communities around the US and overseas.

Member, FTTH Council.

“An open access network does not work well for projects that have less than 500 customers, because the service providers need enough customers to make it worth their investment. Our projects are averaging over 4,000 units, so open access certainly works well within this environment.”

– Diane Kruse, CEO, Zoomy

67. Ortronics/Legrand

www.ortronics.com

877-599-5393

Key Products: Structured wiring, cable and fiber assemblies, associated hardware, engineering services

Summary: Ortronics is one of the largest suppliers of products for management of network cable (both copper and fiber), and for in-building structured wiring for planned communities, commercial apartment buildings, MDUs and campus environments. The company, originally founded in the US in the 1960s, is now a subsidiary of Legrand, based in Limoges, France. The combined company's products include patch pan-