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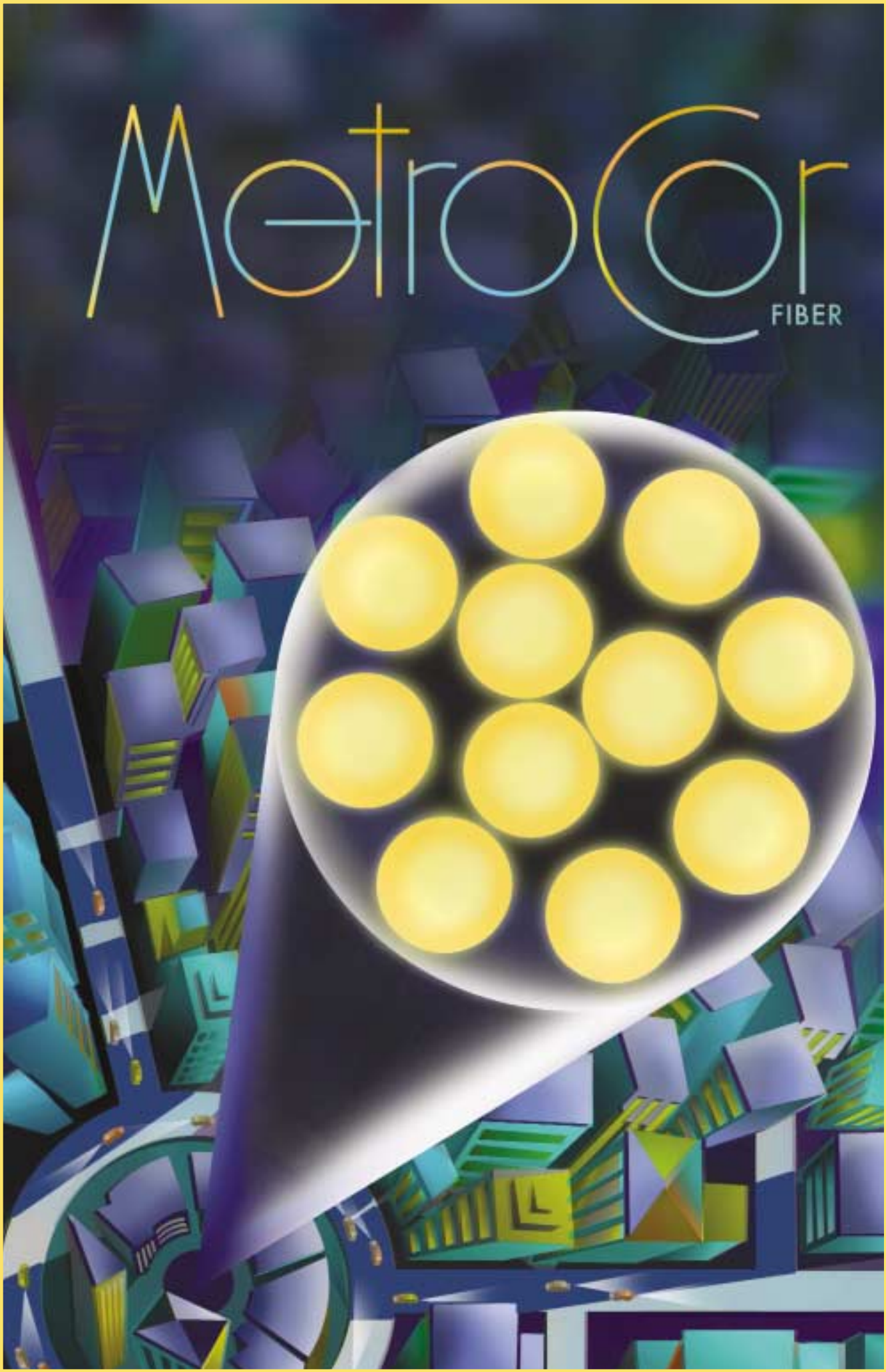
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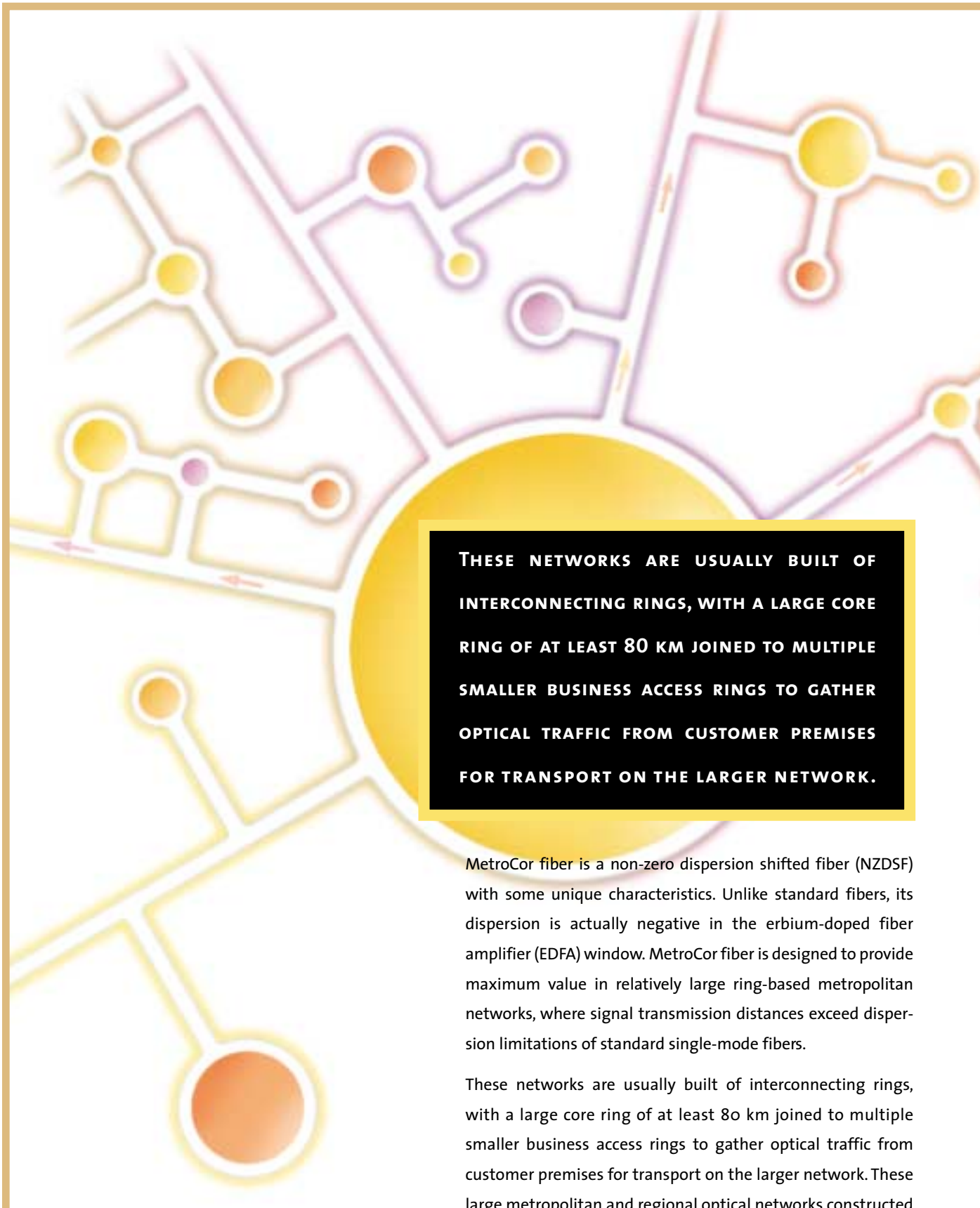


Amy Margolis ©2001

by Curt Weinstein, Director, MetroCor Fiber

Looking Forward with MetroCor Fiber

With everything and everyone demanding more bandwidth, Corning Incorporated is answering with premium fibers that empower long-haul and metropolitan networks to move information faster and smarter. Introduced in 2000, Corning's newest premium fiber is MetroCor™ fiber. The idea that premium fiber products have a demonstrable value proposition really took root with Corning® LEAF® fiber, which introduced in 1998, succeeded beyond anyone's wildest imagination. Similar dynamics are emerging in the metro market, and people are looking toward optical networking as a next-generation technology to originate in the metro applications base. A convergence of these notions indicated a significant opportunity to be had by designing an optical fiber optimized for metro applications. MetroCor fiber now follows in LEAF fiber's footsteps.



These networks are usually built of interconnecting rings, with a large core ring of at least 80 km joined to multiple smaller business access rings to gather optical traffic from customer premises for transport on the larger network.

MetroCor fiber is a non-zero dispersion shifted fiber (NZDSF) with some unique characteristics. Unlike standard fibers, its dispersion is actually negative in the erbium-doped fiber amplifier (EDFA) window. MetroCor fiber is designed to provide maximum value in relatively large ring-based metropolitan networks, where signal transmission distances exceed dispersion limitations of standard single-mode fibers.

These networks are usually built of interconnecting rings, with a large core ring of at least 80 km joined to multiple smaller business access rings to gather optical traffic from customer premises for transport on the larger network. These large metropolitan and regional optical networks constructed of standard single-mode fiber require either complex, expensive dispersion compensation schemes or optical to electrical to optical (OEO) conversions at the points of interconnection. In a standard single-mode fiber network,



these OEO conversions efficiently handle the dispersion limitation of the fiber at the cost of expensive transmission equipment for each channel passing through a given node. The negative dispersion characteristics of MetroCor fiber in combination with the directly modulated laser sources most commonly employed in metropolitan networks allow signals to propagate over four times as far prior to reaching a dispersion limitation. This allows for elimination of complex and expensive OEO conversions or dispersion compensation devices. The end result is a simplified, more reliable network where this technically advanced fiber actually mitigates the dispersion within optical paths.

The clear significance of this technical advantage is a major economic benefit for end users and carriers. The MetroCor fiber value proposition is based upon savings that can be realized using equipment available in the marketplace today. This value has found wide appeal in the emerging carrier, carriers' carrier and service provider metropolitan markets.

As a carrier's network grows, in terms of bandwidth, channels lit, customers and number of connections, the savings achievable through employment of a MetroCor fiber solution grow dramatically. Market studies of future bandwidth demand universally point to extremely rapid increases that are directly proportional to the growth of traffic on optical networks. This traffic growth clearly requires additional expenses as carriers expand their networks to meet demand. To achieve equivalent transported bandwidth, a huge stack of equipment is required for a standard single-mode fiber network, compared with a significantly smaller stack of equipment on the network employing MetroCor fiber. Hence, the value proposition for MetroCor fiber is really twofold. Significant savings in transmission equipment based on today's deployed technologies. Plus, over the next few years, as transparent optical networking becomes widely employed, carriers' networks will be adaptable to that technology in a way that continues to provide the carrier tremendous cost advantage.

MetroCor fiber is truly an innovative product design for a specific situational need.

Several years ago, carriers were tentative about embracing a new fiber product in their networks; however, the success of LEAF fiber has assuaged much of that hesitation. Corning anticipates supplying MetroCor fiber in the coming year to a healthy balance of existing carriers, who have been deploying networks for the last couple years, and brand new players in the field. In short, it is a blend of companies with very different histories and very different business models.

The bottom line is that MetroCor fiber itself is just off the starting blocks. In the coming year, look for it to continue making its mark on the industry, in the metropolitan network and with carriers. As the market changes, the fiber will continue to be enhanced to address these modifications. Like LEAF fiber, Corning anticipates huge success with MetroCor fiber as premium fibers move networks increasingly faster and smarter at less total system cost to the carrier. ■

For more information on MetroCor fiber, please call the Corning Optical Fiber Information Center at 1.800.525.2524 ext/5072 (U.S. and Canada) or +1.607.786.8125 ext/5072 (Outside of U.S. and Canada).



Circle *of* Excellence AWARD

MetroCor Fiber Honored *for* Innovation *and* Merit

Corning Incorporated was recently awarded the coveted *Photonics Spectra* 2000 Circle of Excellence Award for Corning® MetroCor™ fiber. *Photonics Spectra's* editorial advisory board, a team of 34 industry experts, determined MetroCor fiber's qualification for the award on the basis of the product's excellence, innovation and achievement. This is the second time Corning has been affiliated with this honor; in 1999, LEAF® fiber was a Circle of Excellence Award recipient. ❖ The Circle of Excellence Award recognizes the year's 25 most innovative products in the optics industry. The crystal sculpture award was presented at a ceremony held on January 22, 2001, in conjunction with Photonics West in San Jose, California. ❖ This award highlights MetroCor fiber's significance to the industry. As the demand for cost-effective bandwidth solutions for the metropolitan market continues to grow, MetroCor fiber's advanced technology is becoming the preferred choice for leading metro network providers. To date, key MetroCor fiber customers include Carrier 1, Fiberworks, Level (3) Communications, LightSpeed Fiber Network, Looking Glass Networks, Telergy and Williams Communications. ■

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