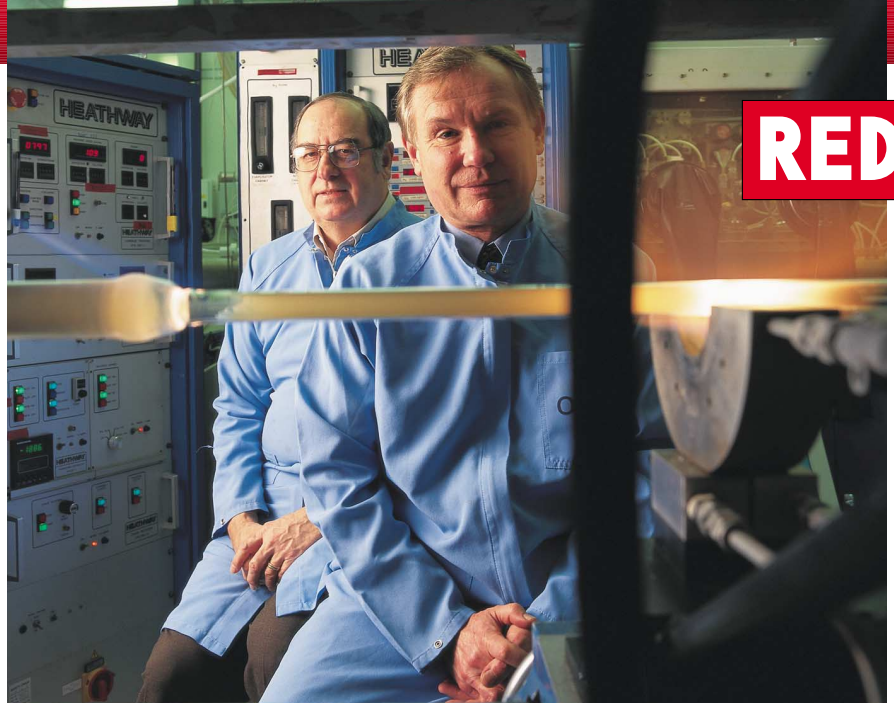
RED HERRING



LIGHT HEAVYWEIGHTS: Jim Hood (left), senior vice president of operations and engineering, and cofounder David Payne of Southampton Photonics.

ONE TO WATCH

Southampton Photonics, light booster.

LIGHTING UP 23 million miles of fiber-optic cable is no small task for broadband service providers—let alone extending the distance that pulses of light can be sent without having to boost the signal, which has been a costly necessity. While optical networks are extremely complex, their economics are simple: the greater the distance and quantity of signals that lasers and optical components can pump, the lower the cost to operate the network.

This is the value proposition for startup Southampton Photonics, which just began shipping specialized fiber and components that help extend the transmission distance and efficiency of these new networks. The Southampton, England, company's first-rate team "has done some very important research in things like the fiber amplifier," says Jay Liebowitz, director of financial advisory service for telecom at RHK, a telecom research group in South San Francisco, California. That's welcome news for cash-pinched broadband carriers.

Southampton's optical-component products are designed for long-haul optical networks and work with dense wavelength division multiplexing (DWDM) equipment, which expands the capacity in a single fiber by a factor of more than 100. DWDM also happens to be one of the fastest-growing segments of the optical-networking market. RHK expects the DWDM market to reach $10 billion in sales this year and $24 billion by 2004.

Southampton was spun off from the Optoelectronics Research Center (ORC) at the University of Southampton in early 2000. The company brought with it a dream team of optical-networking experts, like ORC director David Payne, who is Southampton's cofounder. It was Mr. Payne's ORC team that, in 1986, invented the erbium-doped fiber amplifier, which is the enabling technology for DWDM. Last May, Southampton landed $55 million in first-round financing from Amadeus Capital Partners, InterWest Partners, Quantum Technology Partners, and Sevin Rosen Funds. The company expects that cash to last through year-end.

What differentiates Southampton is its gratings and filters, which offer efficiency well beyond that of competitors Corning and JDS Uniphase. For example, a typical grating uses only 30 percent of the available capacity in a channel, due to its design imprecision. But Southampton claims its designs deliver 80 to 90 percent precision. The company has 60 customers and hopes to have 200 by the end of the year.

Southampton's products accomplish this degree of efficiency by using specialized fiber coated with elements like erbium, which keeps light moving down the central core of the fiber. This extends the distance that light signals can travel without having to be converted into electric signals and then back to light. And that's sweet news to broadband service providers looking to lower their costs and extend their service. —*Lee Bruno*

STEVE DOUBLE

www.southamptonphotonics.com