

BIOSCIENCE

MEDICAL DEVICES

Seeing the Light

Racing to the frontier of artificial sight.

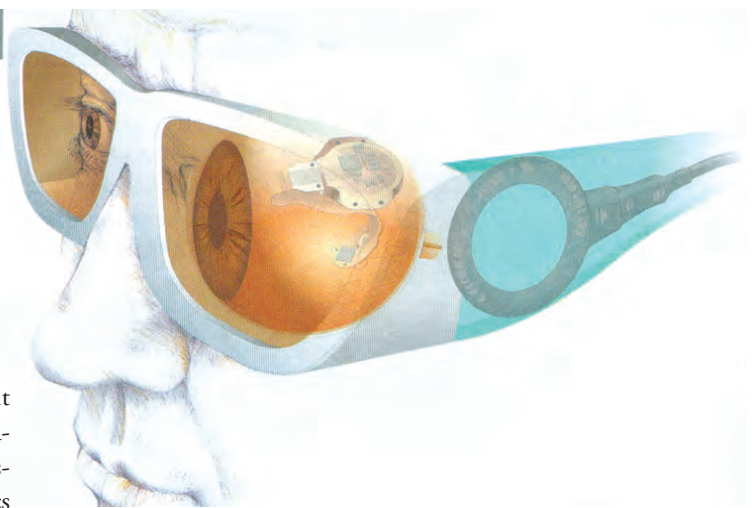
Could an electrode implanted in the retina of the eye help blind people see? Yes, says privately held Intelligent Medical Implants, but possibly not in the conventional sense. The Zug, Switzerland-based company has been developing a system to help those encased in darkness see light and simple patterns. In late October, the company got €15 million, or about \$19 million, in a second round of venture backing from Global Life Science Ventures and others. The funds in part will go to support the company's trials expected to start by the end of November.

The Swiss aren't alone. Other small companies, including Naperville, Illinois-based Optobionics and Sylmar, California-based Second Sight, are also in the race to bring light

to the blind. Like Intelligent Medical Implants, these companies are developing visual prostheses that combine electronics and engineering to provide visual functions people lost.

It's unclear which company will cross the finish line of commercialization, but at least one research firm reckons one or more will. And by the end of the decade, they should be fueling a \$96-million market, according to Neurotech Reports. But the race has only begun, says Neurotech Reports Editor and Publisher James Cavuoto. "They all have one foot past the starting line."

Intelligent Medical Implants hopes to win with its retinal implant system, which basically records surrounding images with a digital camera. Recorded



Digital eyes: System converts images, bringing light to the retina.

images are then converted into signals and sent wirelessly to a receiver implanted in the eye. The receiver then converts these into electric currents that pass through micro-electrodes implanted on the surface of the retina—which activates cells that transmit visual perceptions to the brain.

The firm hopes the technology will give the blind enough independence to maneuver unassisted in familiar environments. Although company Chairman Stephen J. McCormack won't discuss system pricing, Mr. Cavuoto anticipates something

around \$75,000 initially—so until devices clear the experimental stage, he expects the market to be limited to interest groups and the rich. But by 2010, when prices drop to perhaps \$35,000, Mr. Cavuoto expects the market to open up.

Everything hangs on the technology working, of course. As VCs must know, the financial risks aren't small, but the payoff for investors and the blind alike could be impressive. "It's a risk we have to take," Mr. Cavuoto says. "We owe it to these people."

—Rachel Barron