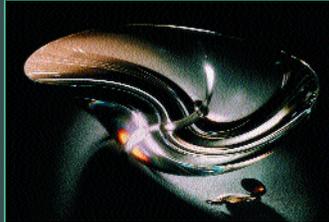


OPTICS



W

hat role do optics play in America's economy? Some important and useful devices depend on optics to produce, control, and detect light in special ways. For millions of Americans who see life as a blur, eyeglasses and contact lenses use optics to focus light so that images can be seen with more clarity. Medical systems see inside the body through precision optical components. And electric utilities are experimenting with optical panels to develop more efficient solar energy collectors, bringing affordable power to many territories.

More sophisticated optics can improve many of these technologies. For ophthalmic equipment, a set of optical mirrors can increase the resolution of retinal cameras, helping researchers identify the biological causes of several eye diseases that can lead to blindness. For electric utilities, new optics panels can improve the efficiency of solar energy conversion, ultimately reducing the cost of electricity for consumers. Unusually shaped optics, called aspheres, offer benefits to a wide range of optical systems, from small image-projection and videography systems to large astronomical telescopes and space surveillance sensors.

Today's Market

U.S. optics companies see signs that the market is growing, so many are adding new employees to explore new opportunities. A recent survey by CorpTech of 88 small U.S. optics companies (fewer than 1,000 employees) reveals that 39 percent of them plan to expand their workforce in 1997; the average anticipated increase is 15.1 percent. The companies expect to create 361 new jobs and generate sales opportunities for their suppliers. More than one company in nine projects growth of more than 25 percent. The highest growth is expected in the Southwest and Eastern Lakes regions, with average increases of 26.6 and 14.8 percent, respectively.¹

Tomorrow's Opportunity

BMDO has funded the development of precision optics for imaging systems and high-powered lasers that can track and destroy ballistic missiles. Some of the most notable achievements of BMDO technology developers include reducing the cost of optics manufacturing and producing smaller, more sophisticated optical components. These developers, in turn, have found new markets for their optical technologies in such industries as astronomy, holography, and spectrography. The following section highlights six technologies and the companies that are commercializing them.

¹CorpTech. 1997. Technology spotlight in future employment trends: Photonics-optics and related equipment report. February. World Wide Web at <http://www.corptech.com/emp trends/ppho-op.htm>.