CONVERSATIONS

Edmund Optics at 75

An iconic optics firm celebrates a landmark birthday—and the son of its founder reflects the changes the firm has seen over its long history.

Earlier this year, Edmund Optics celebrated the 75th anniversary of its founding. OPN caught up with the company’s chief executive (and the son of its founder), Robert M. Edmund, for a perspective on the company’s evolution.

Q. Your father, Norman Edmund, created “Edmund Salvage,” the company that became Edmund Optics, in 1942. How did that come to pass?

Through an unusual series of events. Soon after graduating in accounting from the Wharton School of Business night school in 1940, my dad was diagnosed with tuberculosis, and spent the next two years in a sanitarium. He had trouble finding a full-time job afterward because—he couldn’t prove that he completed the cure!

Growing up, though, my father had always had an interest in photography, so a friend working at the Frankford Arsenal in Philadelphia gave him a job dismantling obsolete and damaged optical instruments. The government would buy back the components that it wanted and let my dad keep the rest. My father quickly acquired a large collection of optics that he would sell to hobbyists who were building things like simple microscopes or close-up camera lenses.

After World War II ended, the government had huge stockpiles of surplus instruments and optics that it needed
to dispose of. My father would purchase these products in large lots, for pennies on the dollar. One unique item my father discovered was a periscope from a captured World War II Japanese submarine, which we later donated to the Battleship New Jersey Museum and Memorial in Camden, N.J.

Q. What are some of the biggest changes the company has seen over the years—both before you started there, and since you joined in 1970, when the laser was still a relatively new device?

My father was always reinventing the company in response to changing economic conditions and technology advances. In the early 1950s, sales boomed due to the Korean War. In fact, government procurement agents told my father that he had more optics than the entire U.S. military! After the war ended, however, there was a virtual collapse, and my dad worried about the future of his business. In the mid-1950s, transistors and printed circuit boards started appearing, and people said that electronics would replace optics. My father, responding to that, changed the company name to Edmund Scientific and started selling science education and science project kits—very successfully in the pre-computer era. Lasers, combining electronics and optics, came on the scene in the 1960s and also became big sellers for us.

Throughout the 1970s, we tried to grow the business as Edmund Scientific, but the advent of the personal computer in the late 1970s saw young people becoming much less enthusiastic about science kits. We went through very lean times at the end of that decade. So I undertook an analysis and determined that our industrial optics and component sales were significantly subsidizing our science-hobbyist sales. In 1984, we divided the company: Edmund Scientific would still cater to science-minded consumers, but the newly created Edmund Optics would focus on optics in industry. The industrial side started to grow quickly and has done extremely well. It has led us to where we are today—an innovator and world leader in optics, imaging and photonics technology.

Q. You have been with Edmund Optics for nearly a half a century, and so have a unique perspective. Looking at optics and photonics today, and looking ahead, what do you think are the most exciting things on the horizon?

From a practical perspective, optics manufacturing continues to advance significantly due to improvements in automation and computers-driven processes. That lets us make high-precision optics in much smaller quantities than ever before. In the early 1980s, for example, if you wanted to buy a lens or a prism, you had to think in quantities of a thousand or more, or no one would be interested in manufacturing it and you would have a difficult time making it yourself for the right price.

What we see now is that a company invents a great device, but only needs a hundred of them to satisfy world demand. Today it’s practical to develop such a device, because we can supply small-volume, custom optics. This results in optics being used in applications where they couldn’t previously.

We are seeing huge demand for optics in markets like automotive, medical, agriculture and the military. The automobile industry relies more and more on optics as part of vehicle safety systems and with the emergence of self-driven cars. We also see optics and the resultant data transforming agriculture, letting farmers inspect crops from the air to detect problems like insect infestations. Treating only the affected area offers significant environmental and cost benefits over treating the entire crop.

Optics are used by the medical field in innovative ways for low-cost, high-volume detection of diseases. One such example is a client in India that developed a device that looks at the iris to identify diabetes in vulnerable populations, in areas where previously it would have been impossible or impractical to screen. Finally, optics play an increasingly important role in the military to reach targets with greater precision and to minimize collateral damage.