

A Decade of  
Steady Growth

Annual Report  
1980



≡≡≡ LUMONICS ≡≡≡



## Ten-Year Highlights

Lumonics Inc.  
1971-1981

1971

January. Lumonics Research Ltd., licensed by the Canadian Government to manufacture the TEA laser, formally begins operation.

1971

September. Lumonics demonstrates its first TEA laser products at the Electro-Optics Systems Design Conference in New York City.

1972

Orders for TEA lasers received from a number of prestigious organizations, including Massachusetts Institute of Technology, Bell Telephone Laboratories, the United States and French atomic energy commissions, and the U.S. Army, Navy and Air Force.

1973

Maclaren Power & Paper acquires 25% interest in Lumonics.

1974

Lumonics moves from leased to company-owned building in Kanata.

1975

Researchers at the U.S. Department of Energy at Los Alamos Scientific Laboratories use a Lumonics laser to separate isotopes of chlorine, carbon, boron and sulfur. This Los Alamos success stimulates a rapid increase in laser photochemistry research.

1976

Lumonics introduces its first industrial product, Lasermark®.

1977

Lumonics markets Lasermark® commercially.

1977

The company introduces the excimer laser, which finds a strong and growing market in industrial, government and university laboratories.

1979

LaserMark® sales increase to 54% of total revenue.

1979

Lumonics doubles its production capacity with a 25,000 square-foot plant addition.

1980

February. Maclaren Power & Paper Company, owner of 35% of the common shares of Lumonics, is acquired by Noranda Mines Limited.

1980

June. Lumonics Research Ltd. becomes Lumonics Inc.

1980

September. Lumonics issues 800,000 shares of common stock for public sale and obtains a Toronto stock exchange listing in October.

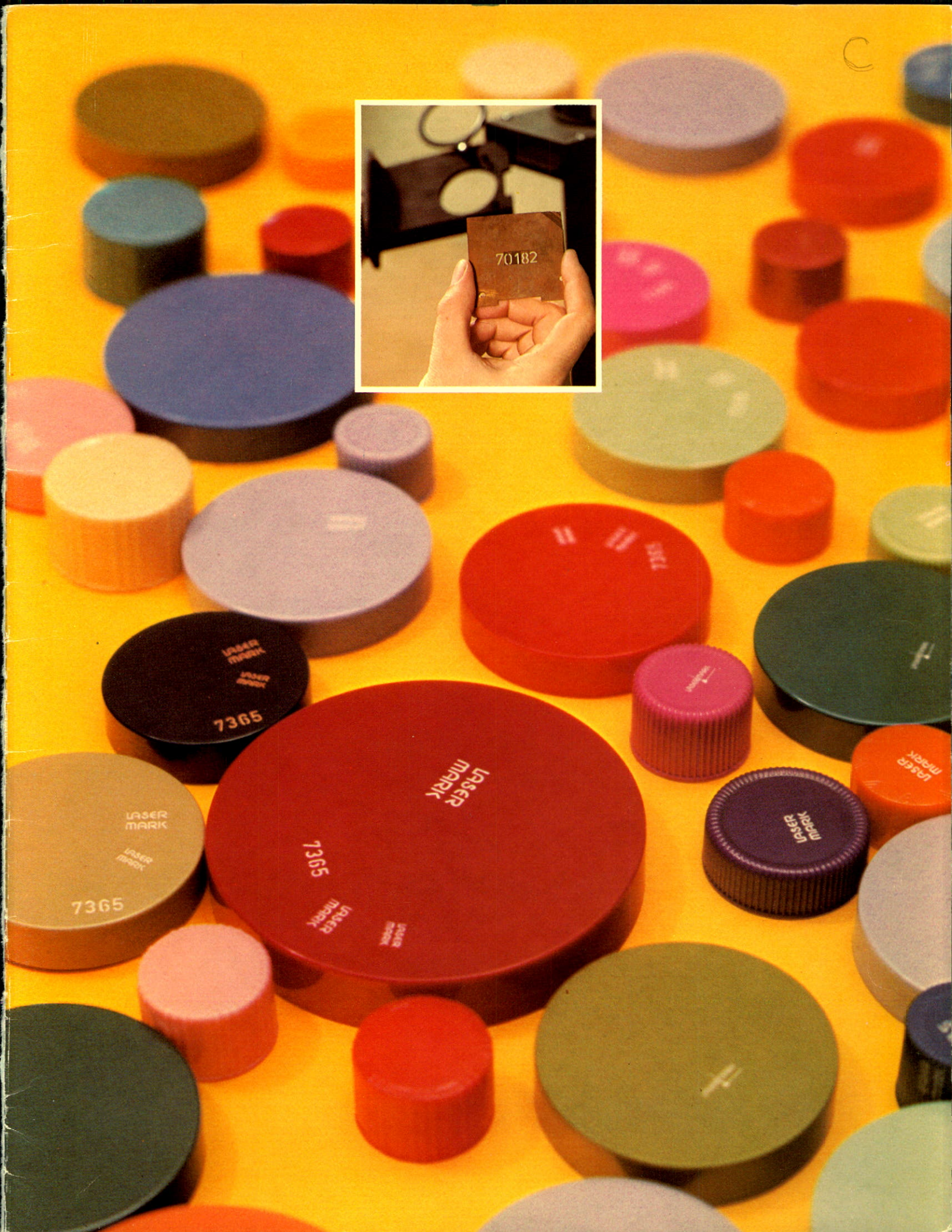
Lumonics Inc. designs, develops and manufactures high power pulsed gas lasers. The company has two principal product lines. The first is a line of general purpose laser products marketed internationally for scientific use in government, university and corporate research laboratories. Products developed for this rapidly growing market have great potential for future commercial and industrial applications. The second is a line of industrial marking lasers, bearing the trademark "LaserMark®," which are sold internationally to a variety of companies in the food, beverage, electrical, electronics, automotive, optical, pharmaceutical, cosmetics and other industries. In addition, the company designs and builds special laser systems and carries out contract research and development in laser technology.

**Cover.** LaserMark® maskholder and maskholder module. The wire is a safety interlock preventing the system from being operated when the maskholder is not in place.

**Opposite.** Coloured plastics lend themselves particularly well to marking by LaserMark®.

**Inset.** A typical LaserMark® mask being placed in maskholder.







## To our Shareholders

Lumonics Inc.  
1971-1981

The end of 1980 marked a decade of successful operations for Lumonics. In ten years, Lumonics has changed dramatically, from an interesting concept to a well established company. This Annual Report reviews those years of development under the theme "A Decade of Steady Growth."

It is hoped that such a review will acquaint the many new Lumonics shareholders with the highlights of the company's first ten years. On behalf of the Board of Directors and Management, I would like to welcome the more than 1,000 people who have become shareholders since the commencement of public trading of Lumonics stock last September.

Lumonics sales of \$7,357,000 in 1980 represented an increase of approximately 25% over 1979, with a corresponding 38% increase in net earnings to \$1,037,000 or 46¢ per share. We were particularly pleased with our asset management program in 1980, which with the aid of our new computer resulted in inventory being held to the same level as 1979, despite the significant increase in sales volume.

In addition to reviewing the highlights of your company's accomplishments during its first decade, this Annual Report discusses the outlook for the next decade. While dramatic growth of the laser industry during the 1980s is virtually assured, that vision of the future is clouded by current economic problems throughout the world. Because Lumonics is not immune to this economic softness, historical growth rates may be difficult to maintain in the near term.

The company, however, is in an excellent position to look confidently to the other side of the economic valley, and to take advantage of external growth opportunities in the meantime. It is anticipated that Lumonics will make a significant start on a program of external growth in 1981. Internal growth will be further augmented by the introduction of three new products during the year.

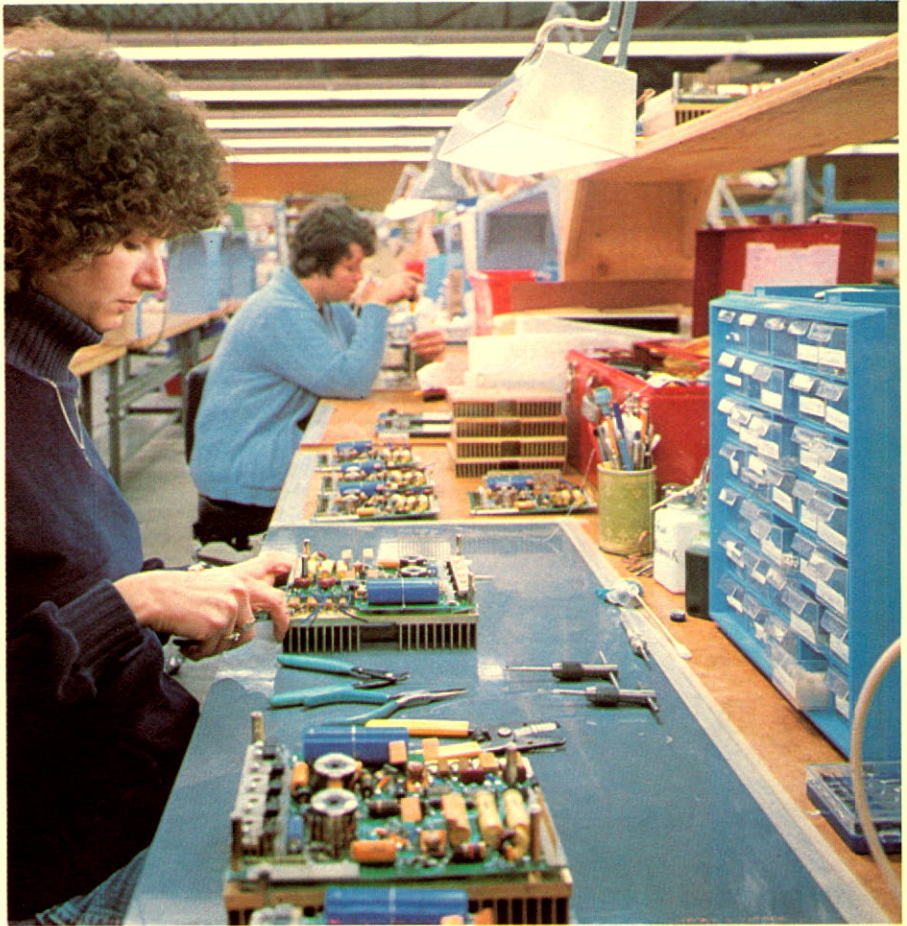
Once again, I would like to express the sincere appreciation of the Board of Directors and Management to the employees whose enthusiasm, competence and dedication made another successful year possible.



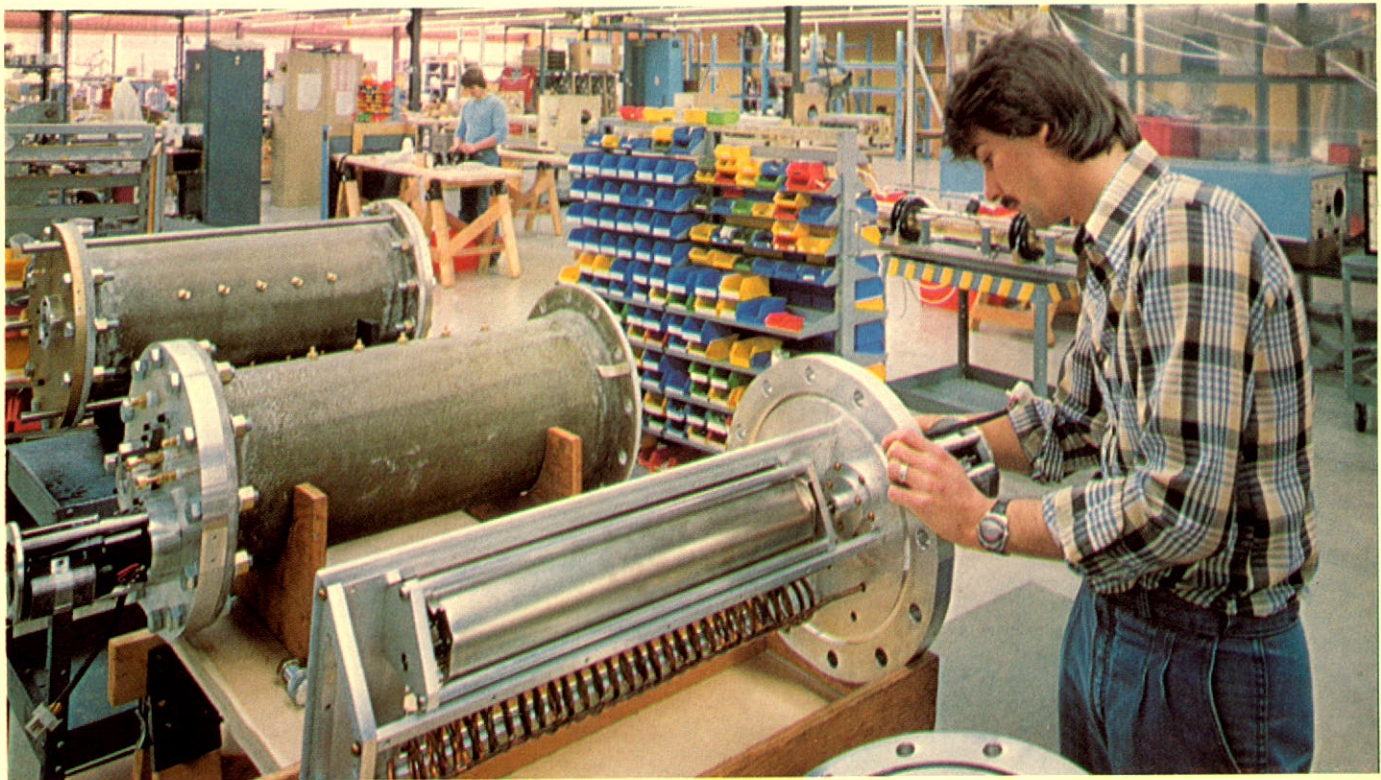
A.R. Buchanan  
President  
Lumonics Inc.







**Opposite.** Lumonics' Kanata plant.  
**Right.** Assembly of electrical power supplies for Lumonics lasers.  
**Below.** Fibreglas pressure heads for scientific excimer lasers.





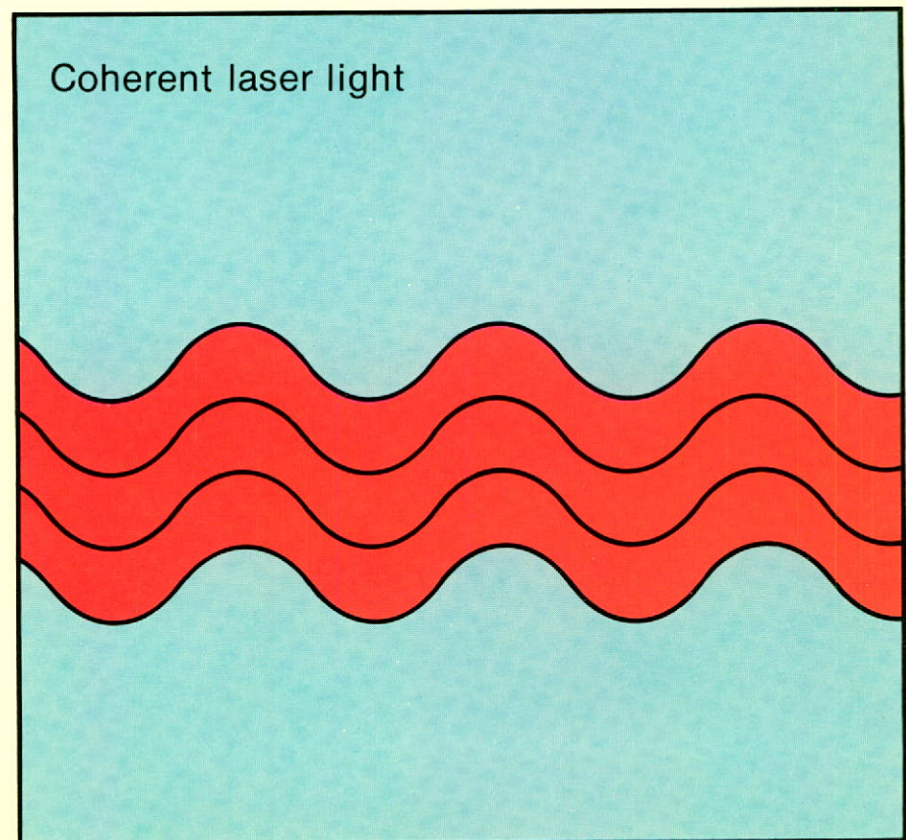
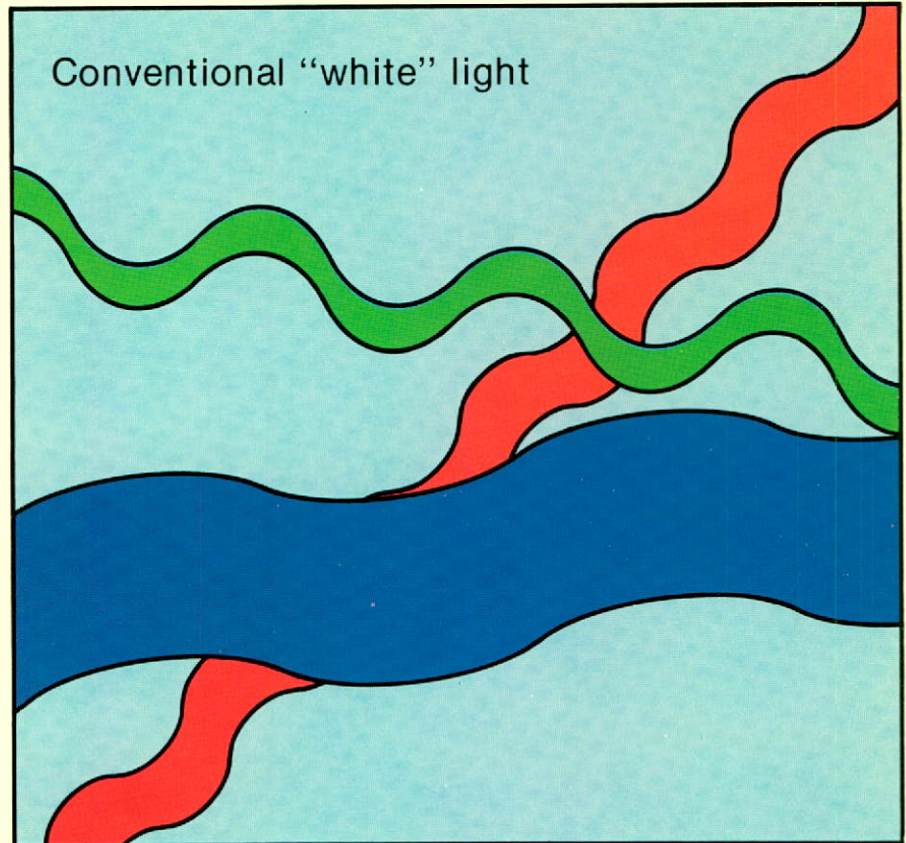
## What is a laser?

Lumonics Inc.  
1971-1981

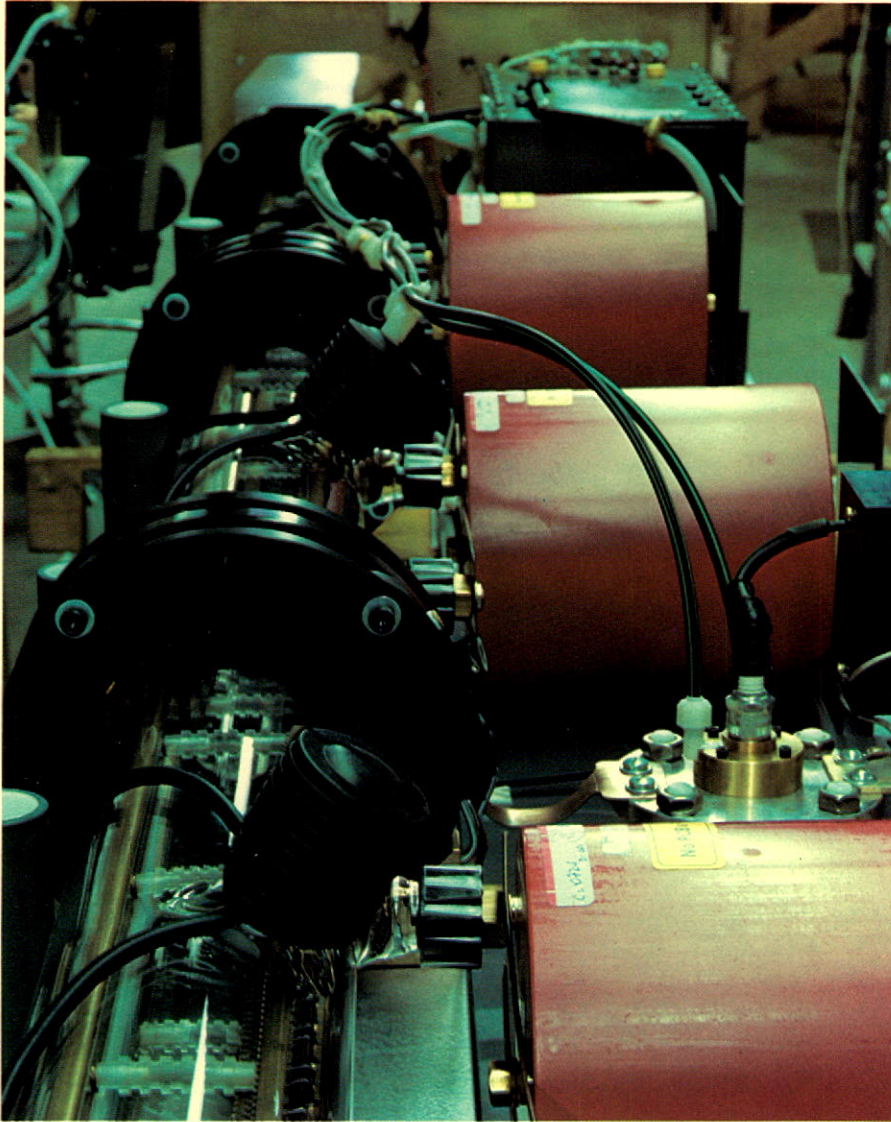
“Laser” is an acronym for “Light Amplification by Stimulated Emission of Radiation.” A laser is a device that uses an energy source and a lasing medium — a material that gives off its own light when stimulated — to amplify light waves and generate an intense and highly concentrated beam of light.

The energy source can be light from special lamps, light from another laser, an electric current or a chemical reaction. The lasing medium can be a gas, liquid, semiconductor or solid. The frequency of the light produced can be in the visible, infrared or ultra-violet portions of the radiation spectrum. The laser emission can be pulsed or continuous. Lumonics lasers use a high voltage electrical discharge as the energy source, use gas mixtures as the lasing medium, operate in the infrared and the ultra-violet portions of the spectrum and are pulsed.

Laser light differs from conventional light because it is “coherent” — that is, it has a single wavelength and uniform direction. This permits laser light to travel as a beam over long distances, transmitting energy or information. It also permits concentration of energy to high density, creating high temperatures.







The original Lumonics product, Model TEA-103, lives on a decade later, still a significant contributor to sales.

## How did Lumonics get started?

In 1968, scientists at the Canadian Defence Research Establishment in Valcartier, Quebec achieved a breakthrough in laser technology. The new laser could be operated at atmospheric pressure rather than under the near vacuum conditions necessary for the operation of most other gas lasers. It was called the TEA (Transversely Excited Atmospheric) laser and it demonstrated the possibility of constructing a relatively low-cost, compact but powerful laser which could have many commercial applications. It created immediate international interest.

Early in 1970, Allan R. Buchanan, Gordon A. Mauchel and Allan R. Crawford applied for manufacturing and sales rights to the new technology. The application was successful, and Lumonics was incorporated in November 1970. Operations commenced in January 1971.

When Lumonics was incorporated, the laser industry was ten years old. Lasers were being used or tested for a wide range of applications: machining of materials, military radar, optical communications, surgery, scientific work. The founders of Lumonics believed that products based on the new TEA laser technology could be developed for additional commercial and scientific uses, and that the laser business had great potential for growth. From the beginning, the decision was made to build a company that could sustain steady growth over the long term, establishing a solid base in proven technology with broad application, and building on this base.



## How did Lumonics get started?

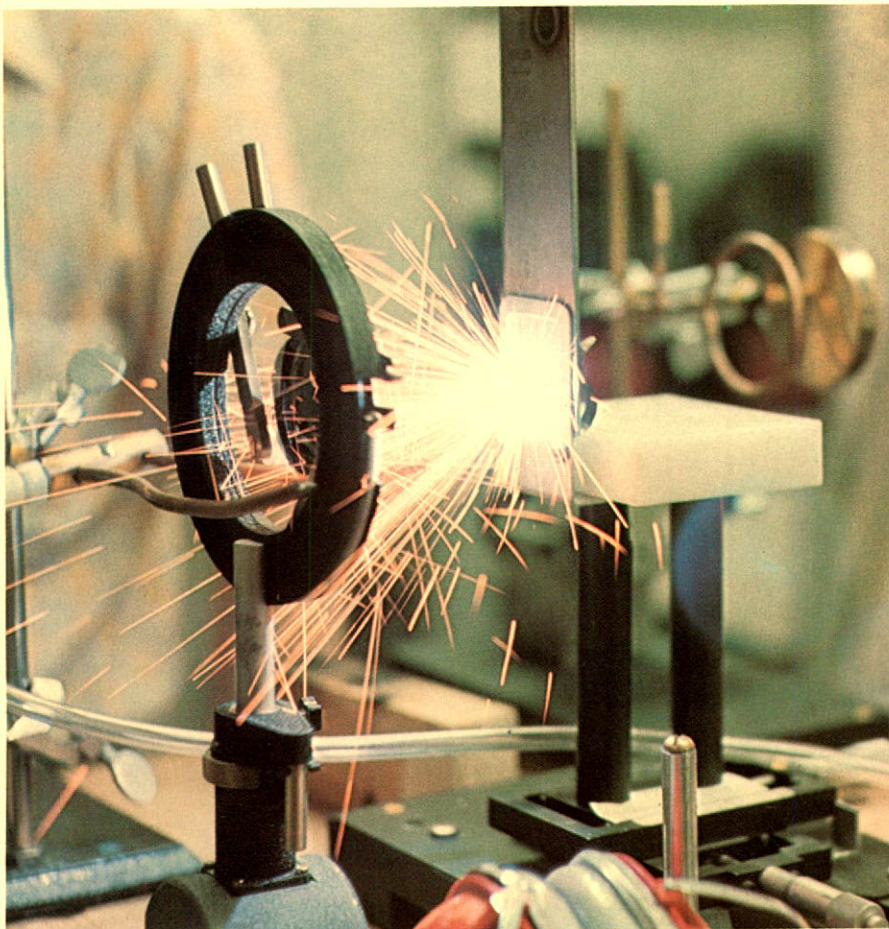
Lumonics products were originally specialized in the field of pulsed gas lasers. This speciality was selected as having good growth potential with limited competition. These products continued to grow and over the next five years the company's product line expanded to include lasers capable of higher power and of producing other infrared wave lengths.

In 1975, researchers at the United States Department of Energy, Los Alamos Scientific Laboratories, New Mexico, reported that they had successfully separated the isotopes of a number of elements, using a Lumonics laser. These laboratory results were considered important since they suggested that similar methods might some day be used to separate the economically more important isotopes of uranium and hydrogen, both used in nuclear reactor systems. Research activity relating to this field, known as laser photochemistry, has grown rapidly since that time and now represents an important market for Lumonics.

Lumonics Inc.  
1971-1981

In 1976, Lumonics introduced its first industrial product, LaserMark®, capable of marking information — quality control codes, expiry dates, “best before” dates, etc. — on products such as foods, drugs, toiletries, confections, pharmaceuticals, cosmetics and auto parts. The LaserMark® system operates much like a slide projector, and creates a mark by projecting a high-energy laser pulse through a mask and focusing it onto a surface.

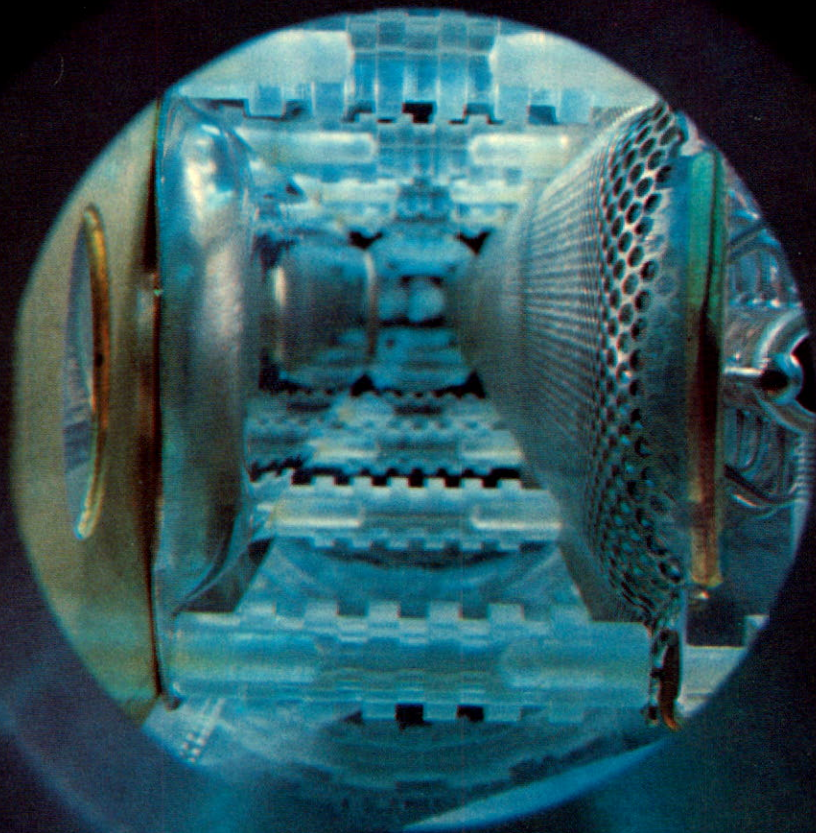
In 1977, Lumonics developed and introduced the excimer laser, which like the TEA laser emits very short intense pulses of light. The excimer laser, however, produces output in the ultra-violet portion of the spectrum as opposed to the infrared. It has opened a whole new area of laser spectroscopy and photochemistry in the ultra-violet range. This new laser has found a strong and growing market in the same areas where initial and continuing sales of the TEA laser were made — industrial, government and university laboratories. Many customers are using Lumonics excimer lasers to investigate potential applications related to their own businesses, such as marking of metals, photochemistry, high-resolution photolithography and annealing of semiconductor materials.



**Left.** Experimental laser drilling of high-temperature alloy steel used in the aircraft industry.

**Opposite.** Close-up view into a laser discharge cavity.







## What was the original philosophy?

Lumonics' original marketing philosophy was to seek out the latest technology and employ it rapidly and efficiently in the development of useful, saleable products. In Lumonics' case this has resulted in the introduction of a range of laser products which were not previously available anywhere.

In the short period of nine months from the start of hiring personnel in January 1971, Lumonics demonstrated its first product at the Electro-Optics (EO) Systems Design Conference in New York City and received headline acclaim from the trade press: "TEA Laser Hottest Item in EO East." Within a year, orders had been received from nearly two dozen prestigious organizations including Massachusetts Institute of Technology, Battelle Memorial Institute and the U.S. and French atomic energy commissions.

Since that initial success, Lumonics has repeated the sequence a number of times during its first decade of growth:

1972  
Hydrogen Fluoride Laser

1972  
High Energy Laser Amplifiers

1974  
Multi-Gas Laser Series

1975  
Laser Kits

1975  
High Speed Laser

1976  
Basic LaserMark® System

1977  
High Speed LaserMark® System

1977  
High Pressure Laser

1978  
Rare Gas Halide (Excimer) Laser

1979  
High Speed Excimer Laser

Lumonics Inc.  
1971-1981

Three new products will be introduced in 1981:

- the Mini Xenon Chloride Laser, a potential replacement for a large existing market in nitrogen lasers.
- the Silicon Marker — a brand new technique for marking silicon semiconductor wafers for the electronics industry.
- the Dye Laser — a new laser product line that produces tunable visible light, with immediate scientific markets and future industrial potential.

**Below.** This laser — one of the largest commercial lasers ever made — operates at 750,000 volts.

**Opposite.** Scientific experiments using lasers may be complex. A Lumonics excimer laser can be seen on the left. Photo: Lawrence Berkeley Laboratory, University of California, by permission.



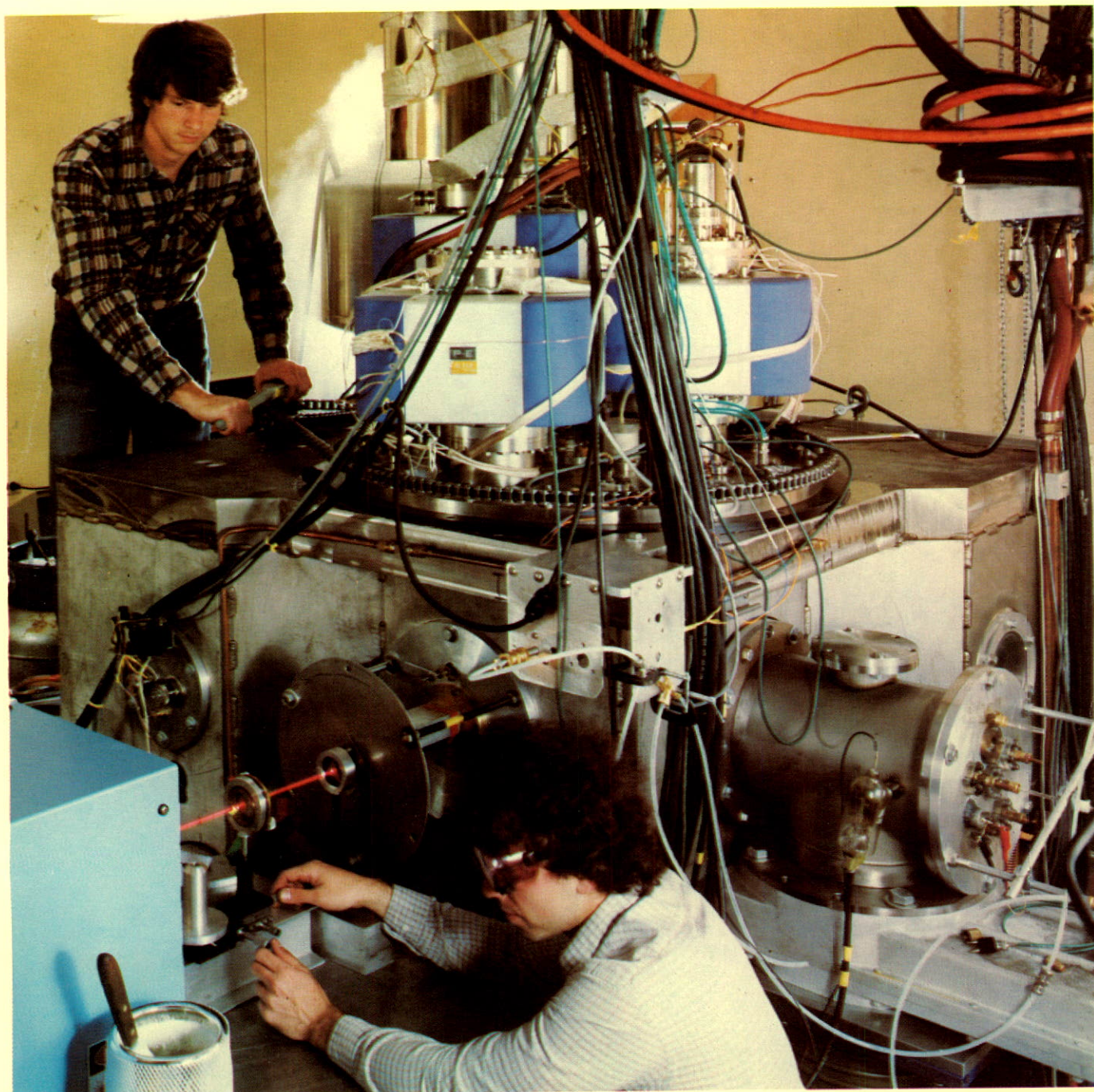


## Why were these products developed?

Scientists are the first to show interest in really new technology. Lumonics determined that physicists in universities and government laboratories were initial potential customers and tailored early products to their needs. Their problem: How do you use lasers to help harness the furnace that powers the sun — nuclear fusion?

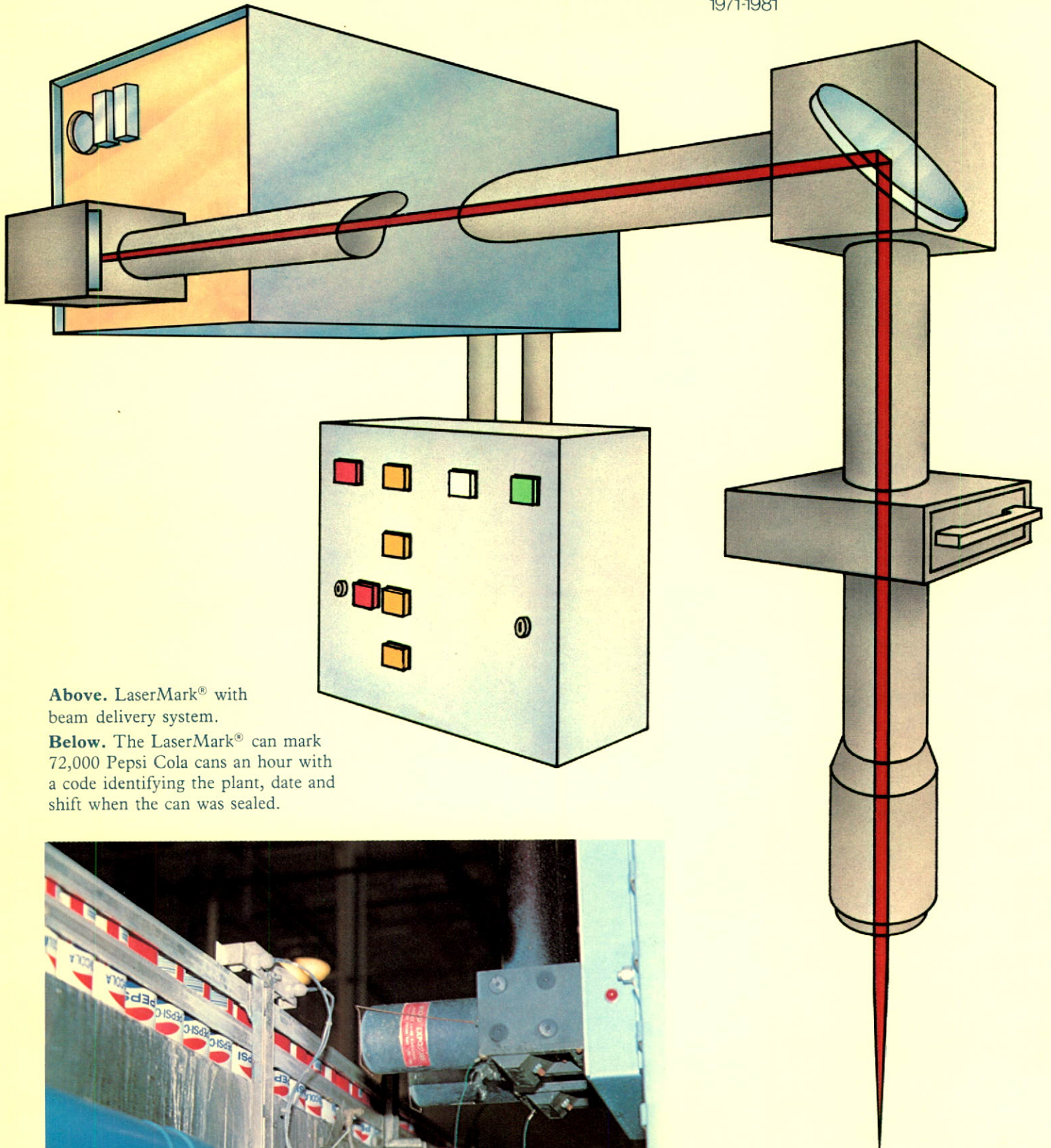
Scientific emphasis changes and physicists and chemists became excited about the possible use of lasers in materials analysis. Their problem: How useful are high energy lasers in helping to obtain almost instantaneous analysis of material composition? Lasers have proved to be very useful in this field, called spectroscopy.

As emphasis continued to broaden, chemists asked themselves: In addition to helping analyse material, would the laser be capable of helping to control chemical reactions? The answer was yes, and the field of laser photochemistry is growing rapidly, requiring increasing quantities, as well as increasing types, of lasers.



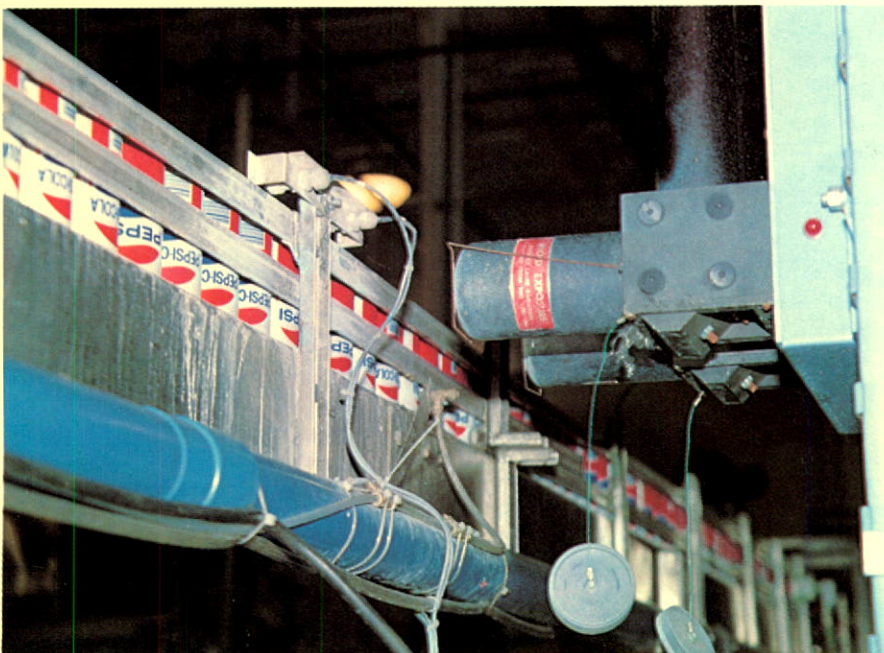


Lumonics Inc.  
1971-1981



**Above.** LaserMark® with beam delivery system.

**Below.** The LaserMark® can mark 72,000 Pepsi Cola cans an hour with a code identifying the plant, date and shift when the can was sealed.





Why were these products developed?

In the meantime Lumonics had — from the start — a keen interest in establishing industrial applications of lasers to broaden markets. The question: What industrial task might be carried out by lasers, which could easily produce instantaneous power of many millions of watts? The answer: LaserMark®. Who would want it? The best way to find out appeared to be demonstration of the technique in trade shows, letting others determine how to use LaserMark® to solve their specific marking problems. The first show created wide interest and many subsequent shows have put Lumonics at the forefront of the new laser marking industry.

The result of ten years of product development is a range of pulsed laser products that are unique.

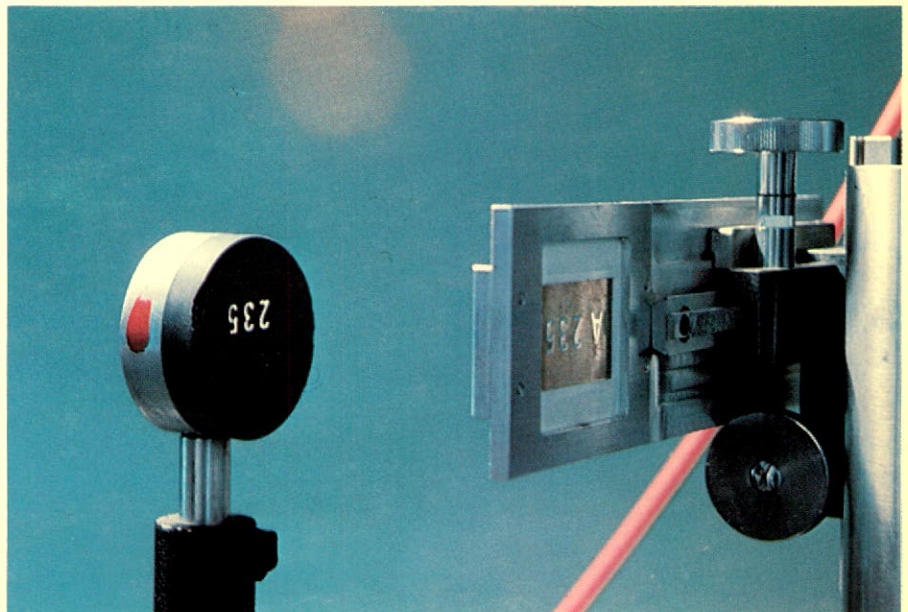


**Right.** LaserMark® test lab for marking customers' samples. LaserMark® is an "off the shelf" product.

**Inset.** Stackable masks allow information to be varied.

**Below.** The germ of the multi-million dollar idea that led to LaserMark®. An invisible laser beam travelling through a mask becomes visible through the incandescence of a carbon block.

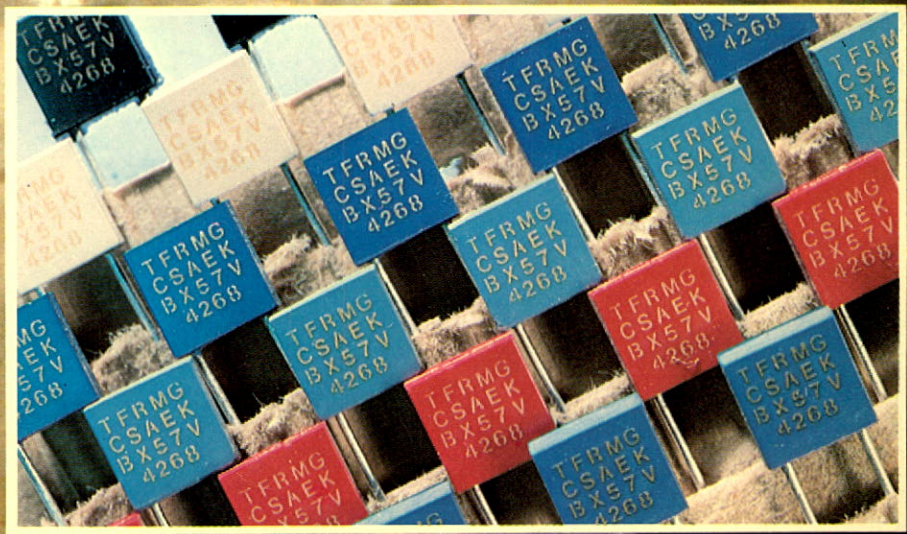
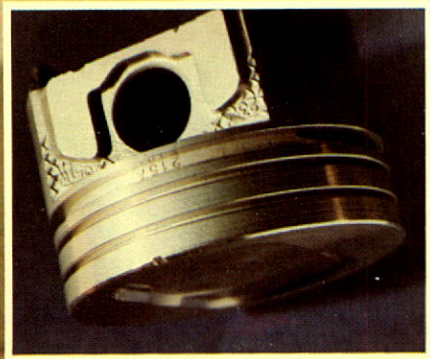
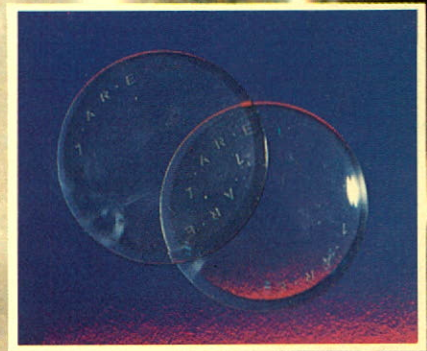
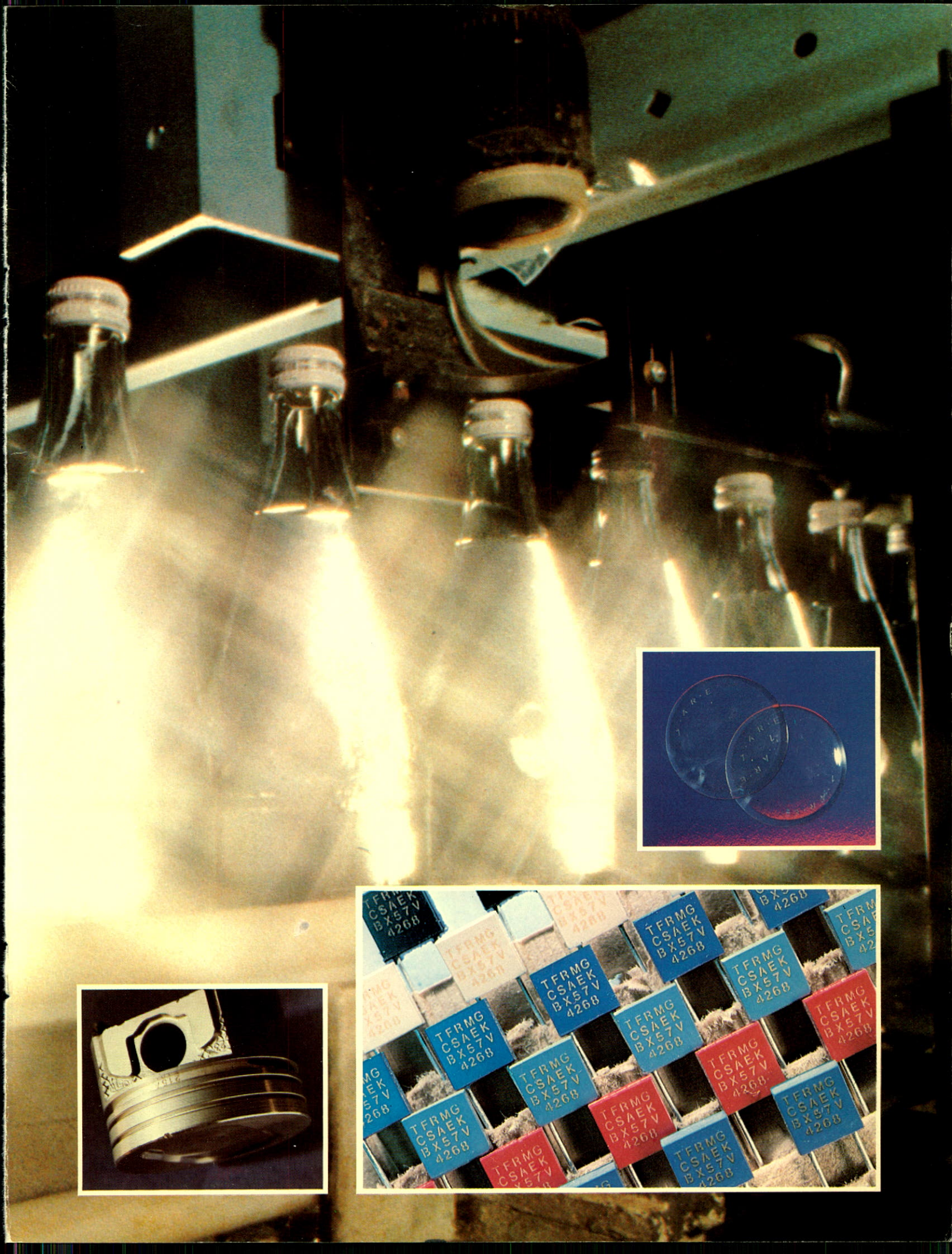
**Overleaf.** Can you find the LaserMark® on these products? The LaserMark® system is used to mark everything from electronics components to consumer products, even contact lenses.













## Everything else you wanted to know about Lumonics.

Lumonics Inc.  
1971-1981

### What about staffing?

Highly trained scientists and engineers are required at the conceptual and experimental phases of Lumonics product development. Organization at this time is informal, unconventional and creative. As the scientific concepts are reduced to successful experimental hardware, personnel with skills common to many other manufacturing companies progressively pick up responsibility for design, production, marketing, finance and administration.

Personnel involved in the conceptual phase join Lumonics as senior experts in a particular scientific discipline. They learn from and quickly contribute to the company's storehouse of technical know-how. More than 30% of the company's employees are professionally qualified scientists and engineers.

Lumonics believes in the modern philosophy of human resources development. The company offers a progressive and attractive benefit package to its employees, including a subsidy for continuing education. The company set about in the early years of the decade to assemble a highly qualified management team, one that could handle the growth that was envisioned. These early efforts are now paying off in well-balanced, seasoned management. Although recruitment of new people continues, promotion from within is equally important to the quality of Lumonics management.

### Has the government assisted?

Greatly. The Canadian government has assisted Lumonics, both financially and technically, in a substantial way. The rationale for government assistance to new-technology industry is that employment opportunities and a corporate and personal tax base are created that would not otherwise exist. This reverse flow of personal and corporate tax dollars — created by building new industrial activity, not at the expense of any other industry — has made the federal investment in Lumonics a "good deal" for the taxpayer.

In a similar way, the Province of Ontario has assisted substantially, particularly in the construction of the Lumonics plant facility. This provincial investment offers anticipated benefits to the province, and the likelihood of ever-increasing benefits in the future.

### Does Lumonics own its plant?

Yes. With the help of Ontario government financial assistance in 1974, construction began on the first 15,000 square feet of plant on a five-acre, company-purchased property. Another 10,000 square feet were added in 1978, and a further 25,000 square feet in 1979. The result is a modern, well-equipped 50,000 square foot plant, now encumbered only by a very small low-interest-rate mortgage.



What capabilities has Lumonics developed in its first decade?

Competence in the science and engineering design of pulsed gas laser products has been developed to the position of world leadership in this specialized field.

The ability to produce a wide variety of complex company products efficiently has been well-honed during the decade.

Computer-aided material planning and control of inventory, production planning and scheduling has further increased this efficiency in the past two years.

Product advertising programs, trade show exhibits, an established sales representative organization, and appropriate demonstration equipment combine to form a powerful marketing capability.

Product quality and reliability have become an industry standard. The company's reputation for quality products is protected by careful pre-shipment testing and a fast-responding, effective service organization.

What kind of industry is the laser industry?

Confusing! There are so many different types of lasers that laser companies tend to specialize in one or a few types. In addition, the number of laser applications is almost too long to list and is growing steadily. Lumonics has specialized from the beginning in pulsed lasers that use gas as a lasing medium.

Laser companies range in size from just over \$100 million dollars in annual sales to very small one- and two-person companies. There are seven or eight dozen laser companies in North America and Europe. Among them, Lumonics ranks about sixth in sales and fourth in profits.

What is the status of laser patents?

Three laser companies and General Motors Corporation (as a user of lasers) are currently involved in lawsuits relating to laser patents. Lumonics Inc. is one of these companies. The company's position is outlined in Note 11 to the Financial Statements. This kind of complex legal action moves slowly. It is unlikely that it will be resolved for many months, possibly several years.



Everything else you wanted to know about Lumonics.

Lumonics Inc.  
1971-1981

#### Where are Lumonics' markets?

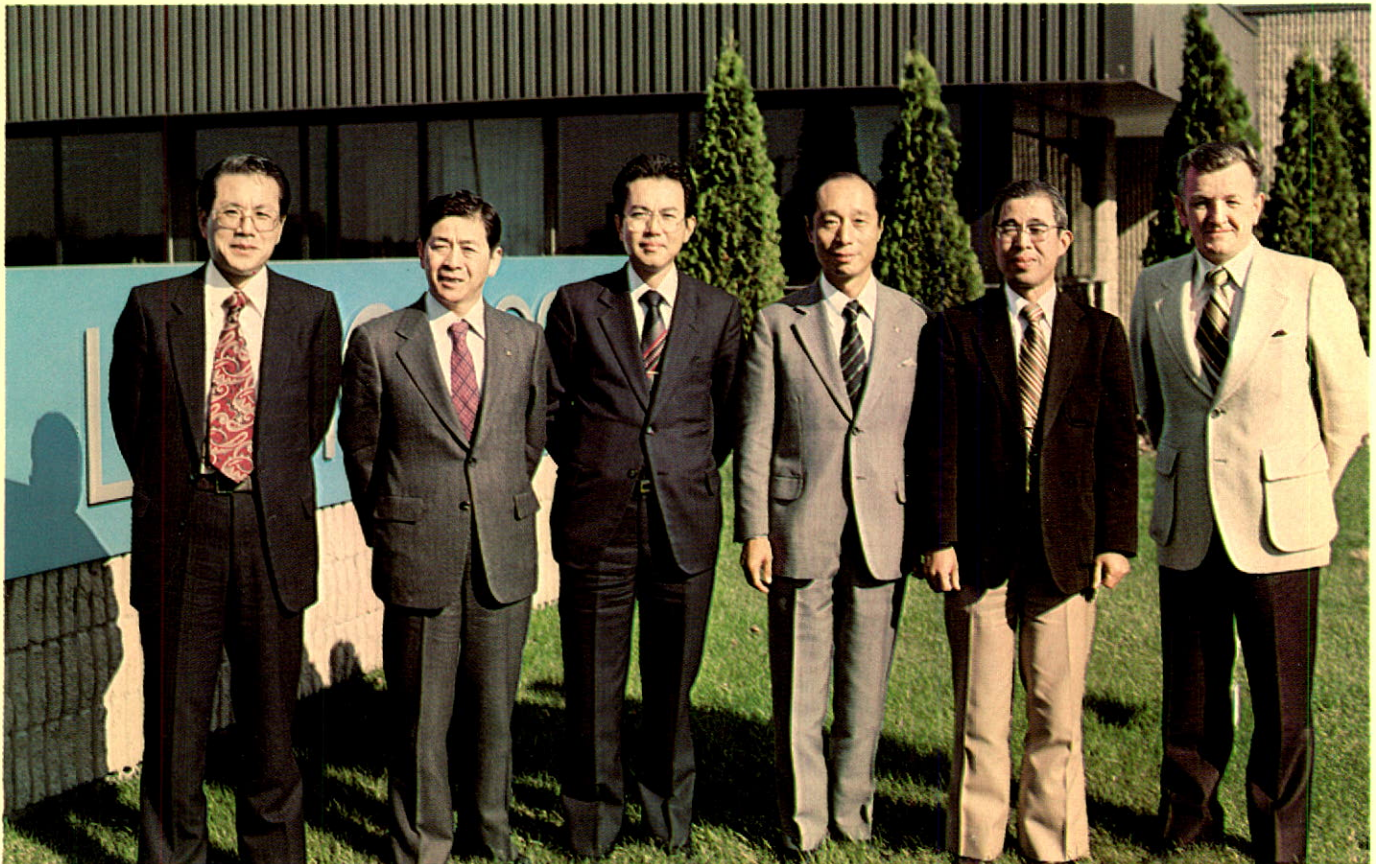
Historically, Lumonics' product sales have been over 95% export, with the U.S., Europe and Japan the prime customer areas. A large number of other countries have also purchased Lumonics lasers, including China, India, Brazil and Venezuela.

Regular contact with Japanese representatives helps promote sales.

#### What about the next decade?

The laser industry as a whole has experienced an average annual growth rate of approximately 25%. Continuing growth of at least this magnitude appears very well assured for Lumonics as far as can be seen into the future. Short term economic conditions, of course, have had and will continue to have an impact on this rate.

The scientific laser market is characterized by research groups using lasers in experiments designed to prove the scientific feasibility of new process techniques. Such new techniques are usually directed at potential industrial processes. When successful, the techniques move out of the laboratory and into industry, opening up sales opportunities for large, reliable, industrialized laser systems. During the next decade, some laser photochemistry experiments could well follow this route. The result will be the creation of facilities for producing specialized chemicals, drugs or other compounds that are costly, difficult or impossible to produce any other way. In the meantime, the scientific market will continue to grow.



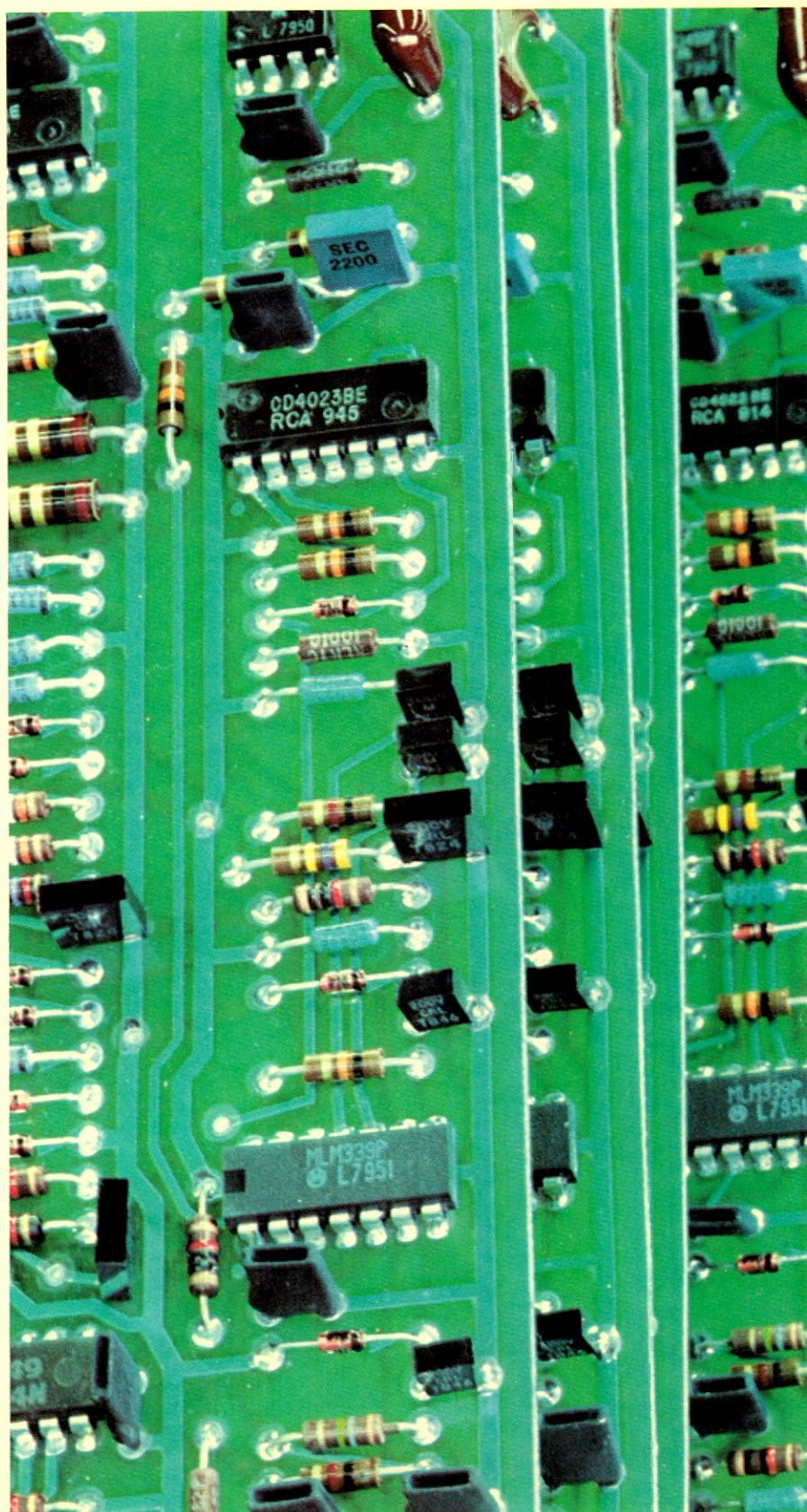


The industrial market for lasers has changed rapidly over the past few years as more lasers and laser types have found applications in cutting and welding of metals, machining, and various semiconductor processes. This trend will continue to gain momentum in the next decade, and sales of the present Lumonics Lasermark® system will grow with this momentum. In addition, a very different type of Lumonics industrial laser system will be introduced in 1981 and developed progressively through 1984. This is the industrialized excimer laser for which federal government financial assistance was announced in late 1980. It is expected to develop new and substantial markets.

There is a great difference in the outlook in 1981 compared with the outlook a decade ago. In 1971 the potential markets were narrow; established Lumonics laser technology was limited to carbon dioxide lasers. In the laser industry in general there were many plans but no performance. The potential was ill-defined and the risks were high. The perspective in 1981 reflects dramatic change on all counts.

Lumonics will continue to build on its strengths as it expands product lines, widens geographic coverage and develops new markets for existing technology.

A variety of printed circuit board assemblies are manufactured for laser control systems and power supplies.





## Corporate Information

Lumonics Inc.  
1971-1981

### Directors

Robert J. Atkinson  
Vice-President, Secretary  
& Treasurer  
Lumonics Inc.

Allan R. Buchanan  
President  
Lumonics Inc.

Douglas C. Cameron  
Vice-President & Treasurer  
Maclaren Power &  
Paper Company

Allan V. Castledine  
Chairman  
Davidson Partners Limited

R. Timothy Kenny  
President and Chief  
Executive Officer  
Maclaren Power &  
Paper Company

Gordon A. Mauchel  
Vice-President  
Lumonics Inc.

Bernard Shinder, Q.C.  
Partner  
Cantax

Charles J. Gardner, Q.C.  
Partner  
Goldberg, Shinder, Gardner  
& Kronick

### Officers

Allan R. Buchanan  
President

Robert J. Atkinson  
Vice-President, Secretary  
& Treasurer

Gordon A. Mauchel  
Vice-President

### Auditors

Deloitte Haskins & Sells  
Ottawa, Ontario

### Transfer Agents

The Canada Trust Company  
Toronto, Ontario

### Stock Exchange Listing

The Toronto Stock Exchange  
Symbol - LUM

### Solicitors

Goldberg, Shinder, Gardner  
& Kronick  
Ottawa, Ontario

### Bankers

Canadian Imperial Bank  
of Commerce  
Ottawa, Ontario

### Head Office

Lumonics Inc.  
105 Schneider Road  
Kanata (Ottawa), Ontario  
Canada  
K2K 1Y3  
613-592-1490  
Telex 053-4503

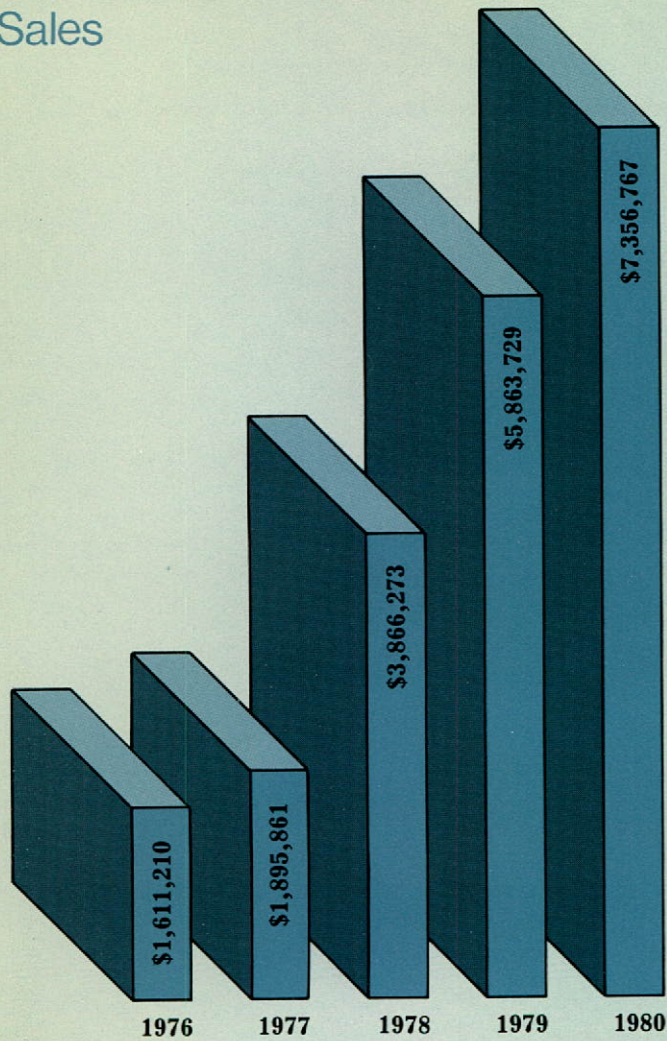
### Branch Office

LaserMark®  
2300 East Devon Avenue  
Suite 126  
Des Plaines (Chicago), Illinois  
USA  
60018  
312-299-4077  
Telex 28-2525



## Financial

### Sales



## Auditor's Report

To the Shareholders of  
Lumonics Inc.:

We have examined the balance sheet of Lumonics Inc. as at December 31, 1980 and the statements of income and retained earnings and of changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the company as at December 31, 1980 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied, except as explained in Note 2 for the change in 1980 in accounting for development costs, with which change we concur, on a basis consistent with that of the preceding year.

Deloitte Haskins & Sells  
Chartered Accountants  
Ottawa, Ontario

February 20, 1981



## Balance Sheet

December 31, 1980	1980	1979
<b>Assets</b>		
Current assets		
Cash	\$ 128,878	\$ 63,932
Short-term investments	5,677,789	—
Accounts receivable (Note 3)	1,740,162	1,610,424
Inventories (Note 4)	1,653,715	1,649,526
Prepaid expense	25,070	15,944
	<b>9,225,614</b>	<b>3,339,826</b>
Notes receivable	205,078	271,440
Property, plant and equipment (Note 5)	2,676,248	1,931,246
Less accumulated depreciation	536,521	342,949
	<b>2,139,727</b>	<b>1,588,297</b>
Deferred development costs (Note 2)	288,120	—
	<b>\$11,858,539</b>	<b>\$ 5,199,563</b>

## Liabilities

Current liabilities		
Customers' deposits	\$ —	\$ 117,610
Accounts payable and accrued charges	996,978	1,254,934
Income taxes	33,114	224,000
Current portion of long-term debt	8,014	7,409
	<b>1,038,106</b>	<b>1,603,953</b>
Long-term debt (Note 6)	176,957	634,971
Deferred income taxes	515,202	353,286
	<b>1,730,265</b>	<b>2,592,210</b>

## Shareholders' Equity

Share capital		
Authorized		
190,500 5% non-cumulative, non-voting preferred shares redeemable at the par value of \$1		
20,000,000 common shares of no par value		
Issued and fully paid		
90,500 preferred shares	90,500	90,500
2,691,320 common shares (Note 7)	7,367,999	813,269
Contributed surplus	125,700	125,700
Retained earnings	2,544,075	1,577,884
	<b>10,128,274</b>	<b>2,607,353</b>
	<b>\$11,858,539</b>	<b>\$ 5,199,563</b>

Approved by the Board: A.R. Buchanan, Director

A.V. Castledine, Director



## Statement of Income and Retained Earnings

Year Ended December 31, 1980	1980	1979
Sales	\$ 7,356,767	\$ 5,863,729
Cost of goods sold	5,409,778	4,238,713
Gross profit	1,946,989	1,625,016
Research and development costs	651,721	1,301,218
Less government assistance	235,475	742,246
	416,246	558,972
Income from operations	1,530,743	1,066,044
Interest income (expense) — net (Note 8)	90,454	(10,384)
Income before income taxes	1,621,197	1,055,660
Income taxes	584,000	307,000
<b>Net income</b>	<b>1,037,197</b>	<b>748,660</b>
Retained earnings, beginning of year	1,577,884	829,224
Share issue expense (Net of tax)	(71,006)	—
<b>Retained earnings, end of year</b>	<b>\$ 2,544,075</b>	<b>\$ 1,577,884</b>
<b>Earnings per common share</b>		
Net income	\$ 1,037,197	\$ 748,660
Average number of common shares outstanding	2,255,514	2,030,270
<b>Earnings per common share</b>	<b>\$ .46</b>	<b>\$ .37</b>

## Statement of Changes in Financial Position

Year Ended December 31, 1980	1980	1979
<b>Sources of working capital</b>		
Operations		
Net income	\$ 1,037,197	\$ 748,660
Items not affecting working capital		
Deferred income taxes	161,916	89,681
Depreciation	193,572	107,713
	1,392,685	946,054
Decrease in notes receivable	66,362	—
Issue of common shares	6,554,730	28,465
Bank term loan	—	450,000
	8,013,777	1,424,519
<b>Uses of working capital</b>		
Additions to property, plant and equipment	745,002	838,584
Increase in notes receivable	—	27,415
Reduction in long-term debt	458,014	7,409
Deferred development costs	288,120	—
Share issue expense (net of tax)	71,006	—
	1,562,142	873,408
Increase in working capital	6,451,635	551,111
Working capital, beginning of year	1,735,873	1,184,762
<b>Working capital, end of year</b>	<b>\$ 8,187,508</b>	<b>\$ 1,735,873</b>



# Notes to the Financial Statements

December 31, 1980

## 1. Accounting policies

The financial statements have been prepared in accordance with generally accepted accounting principles and reflect the following policies:

### Inventories

Inventories are valued on the following basis:

Finished goods — at the lower of cost and net realizable value. Work-in-process and raw materials — at the lower of cost and replacement cost.

### Property, plant and equipment

Property, plant and equipment are stated at cost. Building, machinery and equipment are depreciated using the diminishing-balance method.

### Income taxes

Income taxes are accounted for using the tax-allocation basis, under which income taxes are provided for in the year transactions affect net income, regardless of when such transactions are recognized for tax purposes. Timing differences giving rise to deferred income taxes relate primarily to claiming capital cost allowances for income tax purposes in excess of depreciation and amortization recorded in the books of account.

Investment tax credits are accounted for as a reduction in the current provision for income taxes in the year they are claimed for tax purposes.

### Research and development costs

Development costs relating to specific products that in the company's view have a clearly defined future market are deferred and amortized on a straight-line basis over three years, commencing in the year following the year in which the new product development was completed. Reference is made to Note 2.

Except as there set out, research and development costs (except for capital assets) are charged against income in the year incurred.

### Government assistance

Grant amounts resulting from government incentive programs are recorded in the accounts on the following basis:

Capital grants related to capital expenditures are reflected as a reduction of the cost of such assets. Operating grants related to current period expenditures on research and development are recorded as a reduction of expenses at the time eligible expenses are incurred.

## Translation of foreign currencies

Foreign currency accounts in these financial statements are translated to Canadian dollars on the following basis:

Current assets and current liabilities — at the rate of exchange prevailing at the end of the period. Income, expenses and fixed asset acquisitions — at a rate approximating the rate of exchange prevailing on the dates of the transaction.

## 2. Change in accounting policy

As a result of a recent pronouncement by the Canadian Institute of Chartered Accountants on accounting for development costs, the company has changed its accounting policy for such costs. Previously all development costs were expensed as incurred. Development costs relating to specific products that in the company's view have a clearly defined future market are now deferred and amortized on a straight-line basis over three years, commencing in the year following the year in which the costs are incurred. For the year ended December 31, 1980, the company deferred \$288,120 of development costs incurred in 1980 relating to specific product lines. Had this policy been adopted in 1979, no development costs would have been deferred as the amounts meeting the criteria for deferral would not have been material.

## 3. Accounts receivable

	1980	1979
Trade	\$1,285,895	\$1,400,724
Government assistance	238,308	96,009
Other	215,959	113,691
	<u>\$1,740,162</u>	<u>\$1,610,424</u>

## 4. Inventories

	1980	1979
Finished goods	\$ 70,868	\$ 60,919
Work-in-process and raw materials	1,582,847	1,588,607
	<u>\$1,653,715</u>	<u>\$1,649,526</u>

## 5. Property, plant and equipment

	1980	1979	Rates
Land	\$ 57,506	\$ 46,400	—
Building	1,782,802	1,455,587	5%
Machinery and equipment	835,940	429,259	20%
	<u>2,676,248</u>	1,931,246	
Less accumulated depreciation	536,521	342,949	
	<u>\$2,139,727</u>	<u>\$1,588,297</u>	



# Notes to the Financial Statements

December 31, 1980

## 6. Long-term debt

	<u>1980</u>	<u>1979</u>
Term bank loan	\$ —	\$450,000
8% Ontario Development Corporation mortgage loan due in monthly instalments of \$1,857 each, including principal and interest, through March 15, 1994	<u>184,971</u>	<u>192,380</u>
	184,971	642,380
Less current portion	<u>8,014</u>	<u>7,409</u>
	<u>\$176,957</u>	<u>\$634,971</u>

The 8% mortgage loan is secured by a specific mortgage on land, buildings and equipment and a floating charge on all other assets.

## 7. Common shares

During the year ended December 31, 1980, the following common share transactions were completed by the company:

	<u>1980</u>	
	<u>Number</u>	<u>Amount</u>
Shares sold for cash	656,100	\$6,557,460
Shares acquired by forfeiture under Employee Share Purchase Plan	<u>1,800</u>	<u>2,730</u>
Net increase	<u>654,300</u>	<u>\$6,554,730</u>
	<u>1979</u>	
	<u>Number</u>	<u>Amount</u>
Shares sold for cash	15,200	\$35,965
Shares acquired by forfeiture under Employee Share Purchase Plan	<u>5,000</u>	<u>7,500</u>
Net increase	<u>10,200</u>	<u>\$28,465</u>

By articles of amendment effective July 10, 1980, the company subdivided its common shares on a two-for-one basis and increased the number of its authorized common shares to 20 million. The numbers shown above give effect to the two-for-one split.

There were 2,691,320 issued and fully paid common shares as at December 31, 1980 and 2,037,020 issued and fully paid common shares as at December 31, 1979.

## 8. Interest income (expense)

	<u>1980</u>	<u>1979</u>
Interest expense		
Long-term debt	\$(75,852)	\$(15,516)
Other debt	<u>(13,228)</u>	<u>(12,854)</u>
	(89,080)	(28,370)
Interest income	<u>179,534</u>	<u>17,986</u>
	<u>\$ 90,454</u>	<u>\$(10,384)</u>

## 9. Income taxes

The company has available at December 31, 1980 investment tax credits of approximately \$514,000 for reduction of future federal income taxes. The company also had at that date capital losses carried forward for income tax purposes of approximately \$109,200 which may be deducted from any future taxable capital gains. No recognition has been given in these financial statements to the potential tax savings which may result from these items.

## 10. Remuneration of directors and senior officers

Remuneration of the Company's directors, senior officers and senior personnel for the year ended December 31, 1980 was \$328,592 (1979 - \$290,427).

## 11. Litigation

The company is currently the defendant in two actions alleging patent infringement, one in Canada and one in the United States. In both cases, the plaintiffs are various persons, including Gordon Gould and Refac International Limited, with an interest in certain patents originally issued to Mr. Gould.

The Canadian patent under litigation was issued August 8, 1972 and is titled "Light Generating and Amplifying Apparatus". In the action, which was commenced in the Federal Court of Canada on December 19, 1978, the plaintiffs' claim against the company is for an injunction against manufacturing or selling lasers in Canada in infringement of the patent, an order to deliver up to the plaintiffs all lasers in the possession of the company made in infringement of the patent and damages suffered by the plaintiffs or an accounting of the profits made by the company by reason of the infringement.



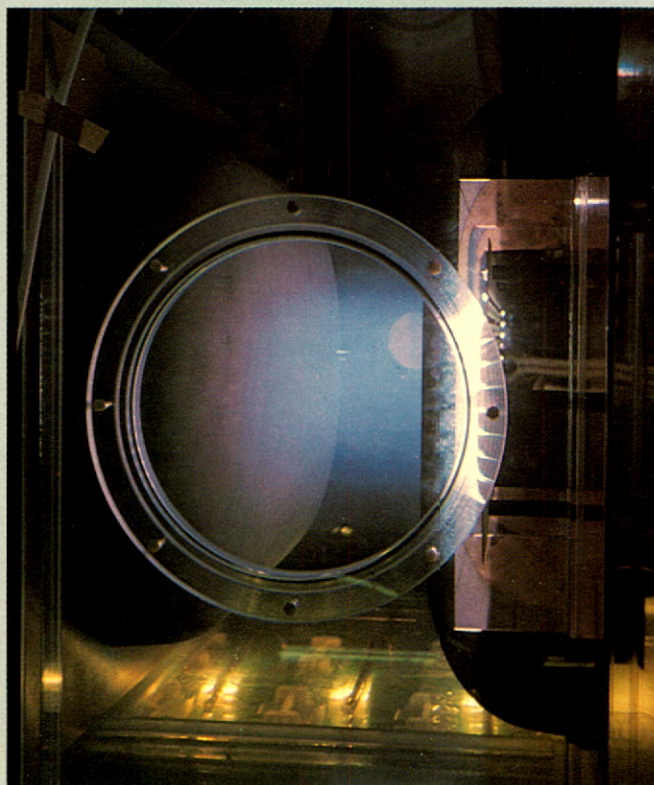
## Notes to the Financial Statements

December 31, 1980

### 11 Litigation (continued)

The United States patent under litigation was issued July 17, 1979 and is titled "Method of Energizing a Material". In the action, which was commenced in the United States District Court for the Northern District of Illinois, Eastern Division on November 6, 1979, the plaintiffs' claim against the company is for an injunction against continuing activity constituting patent infringement or the inducing of patent infringement by others and treble the damages actually suffered by the plaintiffs as a result of such activities. Early in 1980, General Motors Corporation successfully moved to intervene in this action as a defendant on the basis that, as a laser user, it had a large financial interest in the case.

The company has retained separate counsel in Canada and the United States to defend these actions and believes it has good defences on the merits in each case. Pleadings have been exchanged but at this time it is not possible to determine when these cases will be resolved. It is the company's opinion that even in the event of an adverse judgment in either or both actions, it is reasonable to believe that licence arrangements could be negotiated which would not result in a material adverse effect on the company.



Lumonics' largest  
standard laser produces a uniform  
400,000 volt discharge.



## 5-Year Financial Summary

	1980	1979	1978	1977	1976
Operating results:					
Sales	<b>7,356,767</b>	5,863,729	3,866,273	1,895,861	1,611,210
Net earnings	<b>1,037,197</b>	748,660	535,519	239,144	171,598
Net earnings as a % of sales	<b>14.1%</b>	12.8%	13.9%	12.6%	10.7%
Financial data:					
Working capital	<b>8,187,508</b>	1,735,873	1,184,762	880,514	692,067
Current ratio	<b>8.9:1</b>	2.1:1	2.3:1	2.7:1	2.6:1
Fixed assets — net	<b>2,139,727</b>	1,588,297	857,426	416,864	410,434
Shareholders' equity	<b>10,128,274</b>	2,607,353	1,830,228	1,235,084	1,059,740
Share data: *					
Average number of common outstanding shares	<b>2,255,514</b>	2,030,270	1,997,062	1,988,720	1,923,970
Earnings per share	<b>.46</b>	.37	.27	.12	.09

\* After giving retroactive effect to a 2 for 1 stock split on July 10, 1980.

“An investment in knowledge  
always pays the best interest.”

Benjamin Franklin



