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## EXPLORING NEW HORIZONS

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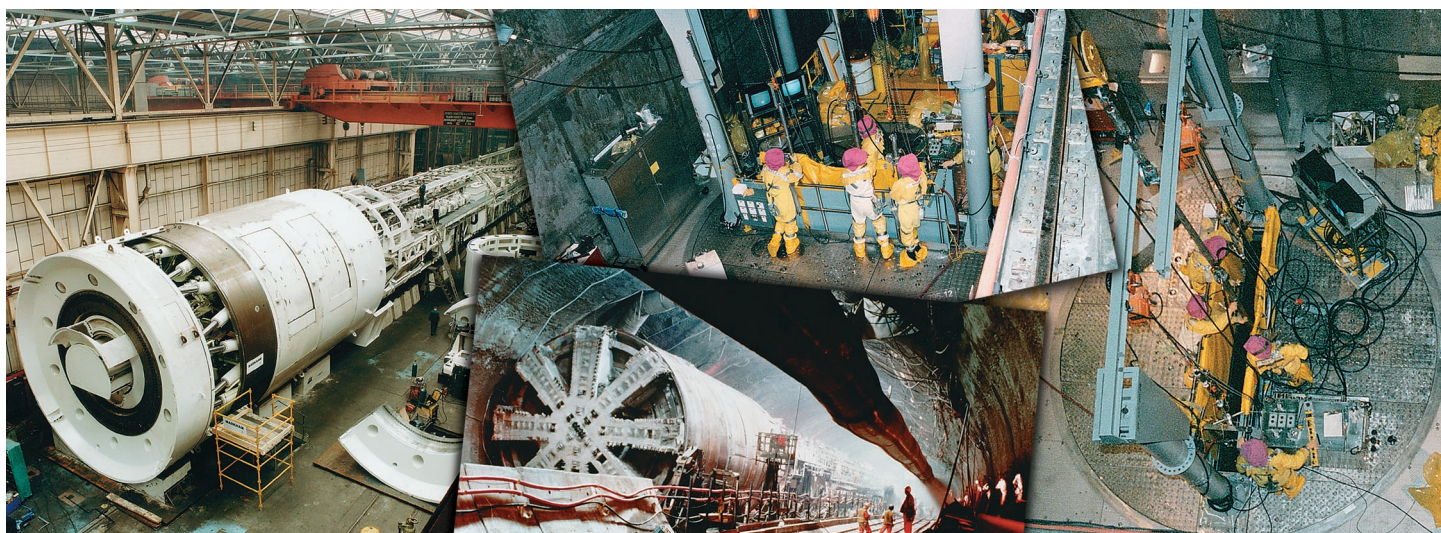
# 1980-1989

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A revolution was born as small, powerful computers invaded the home and workplace, ushering in the much heralded Information Age. Fractures began to appear in the Communist world, triggering epochal change that ended in the 1991 collapse of the Soviet Union and the cessation of the Cold War. Wall Street provided a fitting epitaph for the decade as fortunes were made while markets toppled. Pall's ongoing search for new opportunities earned it a growing presence in the Pacific Basin, Europe and South America, as well as an emerging role in improving the quality and safety of the world's blood supply.

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## THREE MILE ISLAND CLEANUP



# Pall Plays a Major Role in Three Mile Island Cleanup

**Three Mile Island.** The name continues to evoke haunting memories of a nation's most serious nuclear accident. And though the infamous event on March 28, 1979 at the nuclear power station in the Susquehanna River near Harrisburg, Pennsylvania, was miniscule in its health consequences, it has had a profound and lasting impact on the nuclear power industry.

The cleanup of the damaged radioactive Unit 2 reactor required nearly a decade of intense

work at a cost of over \$1 billion. Pall was an integral part of that project. The company was approached by General Public Utilities, the owner of the nuclear reactor, to provide a system to be used in the cleanup of radioactive water, which had gathered to a depth of 20 to 30 feet above the damaged core of Unit 2. By recirculating that water through Pall filters, visual clarity would be maintained so that workers could remove debris and rubble with remote tools.

On April 29, 1983, a meeting was held at Pall's Scientific and Laboratory Services Group in Glen Cove, New York to map out a strategy. The intense research and development program that followed resulted in the development of an entirely new product: a sintered stainless steel filter which offered significant advantages over other solutions that had been proposed. Among the benefits were a simple, continuous mode of operation and elimination of a complex filter control system.

*(Continued on page 17)*

## PALL GOES UNDERGROUND... AND UNDERWATER

**P**all's technical expertise has figured in some of the most celebrated engineering projects of our times. Construction of the \$10 billion Eurotunnel under the English Channel between England and France, begun in the mid-80s, is a case-in-point.

*With installation subject to financial penalties of up to \$938,000 per day in the event of project overruns, reliable operation was absolutely essential to the project.*

*(Continued on page 17, column 3)*

*Pall went underground to play an important role in the construction of the Eurotunnel between England and France.*





The new filter was later named Pall Porous Metal Membrane (PMM) filter and extensive tests by the engineers at the cleanup site underscored its effectiveness. Working under tight time constraints, Pall's plant in Cortland, New York began producing the material and in less than a year had manufactured and delivered 50 canisters filled with PMM media for the cleanup of damaged Unit 2.

Ultimately, two million gallons of cleanup water were passed through the PMM modules and 20,000 lbs. of irradiated solids were removed. For its efforts, Pall was presented with a plaque from General Public Utilities for its "significant contribution" to the success of the Three Mile Island cleanup.

The story does not end with Three Mile Island, however. The new filter technology that emerged from the project has since found its way into a number of important — albeit more routine — applications at nuclear power stations.

*Pall's sintered stainless steel filters treated two million gallons of cleanup water at Three Mile Island and removed 20,000 lbs. of irradiated solids.*



*"The cleanup of the damaged radioactive Unit 2 reactor required nearly a decade of intense work at a cost of over \$1 billion. Pall was an integral part of that project... For its efforts, Pall was presented with a plaque from General Public Utilities for its 'significant contribution' to the success of the Three Mile Island cleanup."*

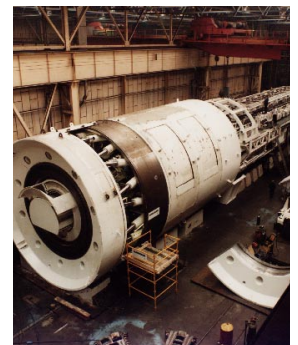


*(Continued from page 16)*

Perhaps the single most critical operational requirement was the dependability of the massive machines which bored and erected the concrete structure of the tunnel. Keeping these machines at peak operating efficiency depended heavily on the performance of their hydraulic systems.

Aware of Pall's experience in the field, the manufacturer of the hydraulic systems used in the boring machines called on Pall's Scientific and Laboratory Services (SLS) facility in Portsmouth, England for help. SLS agreed to take an active and immediate role, beginning with the specification of filtration and cleanliness levels at both the design and build stages in order to ensure trouble-free operation.

SLS also monitored the project's progress, provided instruction to the maintenance staff, and set-up a quality system to measure and ensure performance. Thanks in part to Pall's help, the formidable task of tunneling under the English Channel was completed six months ahead of schedule.





# Protecting Patients from Foreign Invaders

**Pall's family of health care products continued to evolve with the changing needs of physicians and patients. In the area of hematology, the health care profession had been aware for many years that patients given blood transfusions frequently developed fevers and allergic reactions, and that repeated transfusions resulted, in the body's rejection of further transfusions.**

**B**y the late 1970s, immunologic research had identified leukocytes, or white blood cells in donor blood, as the major source of the problem. Leukocyte reduction by filtration came to light as a possible solution. But filtration was not able to achieve the level of leukocyte reduction that the medical community felt was necessary to maximize patient safety and ensure the effectiveness of the treatment.

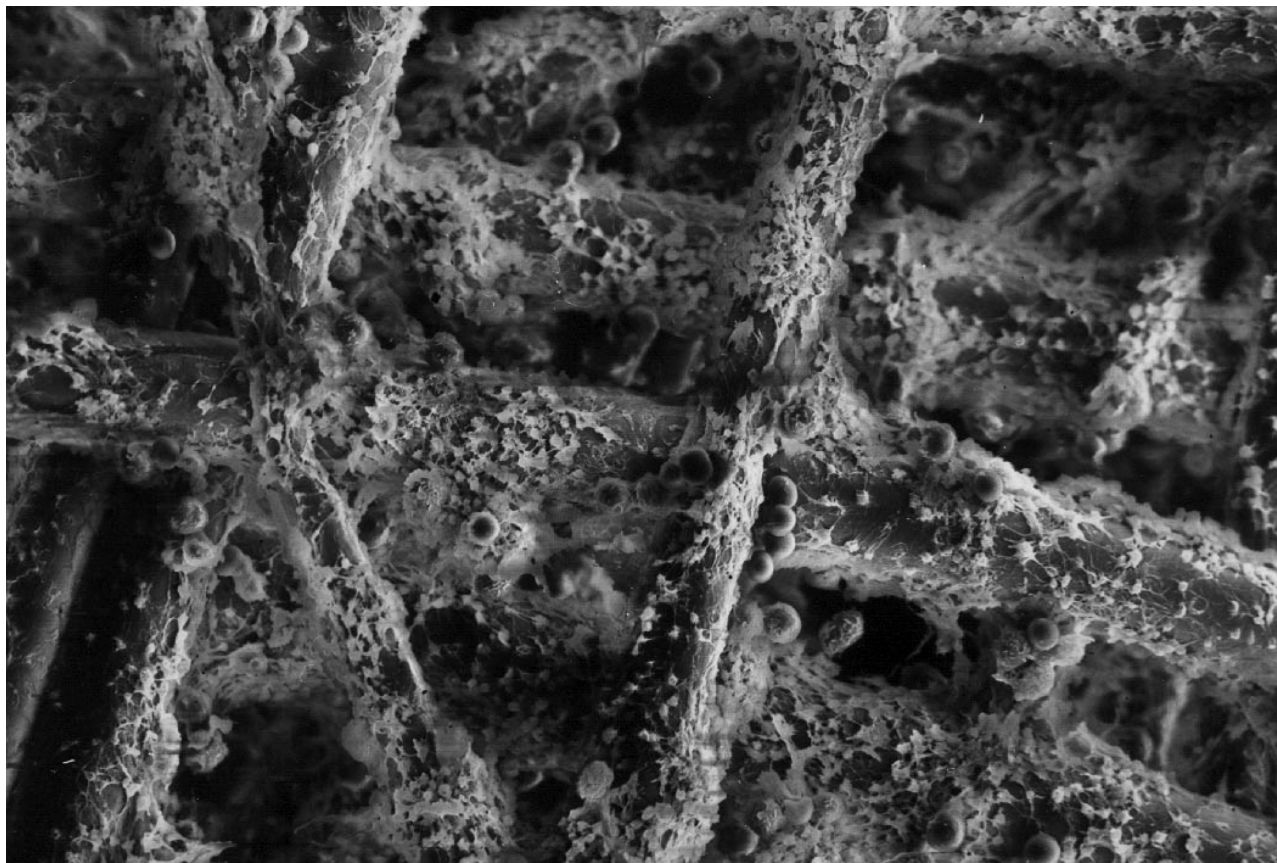
A research team under the direction of Dr. David Pall took up the challenge in 1985. What emerged from their laboratories after two years of intense work was a series of new filters that surpassed anything on the market. They made it possible to turn any red cell or platelet component into a significantly leukocyte reduced blood product for safer effective transfusions.

In 1988, Pall Corporation began selling its new leukocyte reduction product line, which could be attached to any blood transfusion bag at the patient's bedside. The health care community was clearly excited, and filter sales soared. By the end of the year, more than 650 hospitals were using Pall leukocyte reduction filters, and they continue to be the most widely used hospital filters worldwide.

Blood collection centers also became major users of Pall filters. For this application, Pall scientists developed another family of leukocyte reduction products for the filtration of blood at the time of donation, as well as during the storage life of the blood.

The sale of Pall blood filters to blood centers rose dramatically in the 1990s as a greater awareness of the benefits of leukocyte reduction began to take hold worldwide. Pall filters now play a pivotal role in improving patient outcomes, shortening hospital stays, and cutting health care costs.

*Pall researchers found a way to produce significantly leukocyte reduced blood product for safer transfusions. Shown below is a photomicrograph of leukocytes trapped on Pall filter media.*



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# REAPING THE REWARDS

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# 1990-PRESENT

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The century's last decade stirs up a brew of terrorism, civil war and AIDS.

But in other ways, the world has never looked better — or smaller. The Global Village is at last reality. It's a world in which products, markets, technologies, even business strategies, are converging. Indeed, the real frontiers are no longer territorial; they are markets and ideas.

Pall, after nearly 50 years of hard work and preparation, finds itself perfectly positioned to enjoy the exciting opportunities now unfolding.

**F**requently in Pall's history there have been compelling — and gratifying — examples of the power of its products. None is greater, however, than Centrisep air cleaners installed in U.S. Army and Royal Air Force (U.K.) helicopters undergoing combat in Operation Desert Storm. Centrisep air cleaners were major contributors to keeping the helicopters in the air and pilots alive during the war against Iraq in early 1991.

The problem that Army aviators faced at the outset of the war was frightening: rapid power loss as their engines loaded up with sand and dust from the harsh desert surface. As one helicopter pilot later explained, "Operating a Cobra meant playing Russian Roulette as to whether

you could get in and out of Iraq without engine loss."

Pall's solution was the Improved Particle Separator (IPS), part of the Centrisep family of air cleaners. With lives at stake, it was essential that this product be brought to life as quickly and efficiently as possible.

It was accomplished, as Pall marshalled its own forces for an extraordinary, round-the-clock effort in both the U.S. and U.K. The Improved Particle Separator was designed, manufactured, qualification tested, put through full flight trials, and approved by the U.S. Army in a total of 42 days. In all, 515 units were manufactured and shipped from November 1990 through February 1991.




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**PALL FILTERS EARNED THEIR WINGS DURING OPERATION DESERT STORM**



The results were dramatic and swift. Availability of the U.S. Army's UH-1 Huey helicopters, less than 50 percent at the beginning of Desert Storm, rose to nearly 90 percent after the Improved Particle Separators were installed. Impressive results also occurred with Apaches, Cobras, Blackhawks, CH-47 Chinooks and other helicopters outfitted with the new filter systems. For their part, the British forces experienced virtually no engine losses during the entire Desert Storm campaign thanks to the Centrisep Particle Separators.

A young U.S. warrant officer who flew numerous missions during Desert Storm perhaps summed it up best. Stopping by Pall's booth at a U.S. Army Desert Storm Exhibition in St. Louis, Missouri after the war, he thanked the engineers and designers on hand for their exceptional efforts. In all probability, he said, the Centrisep air cleaner had saved his life.

*Pall filters helped keep helicopters in the air and pilots alive during Desert Storm.*

*"When I started with Pall 30 years ago, we were a \$40 million company with each location focused only on their own needs. Today we are a billion dollar company with facilities and interests around the world. This has resulted in tremendous changes in how we work together globally. Pall's purchasing operations are a good example of sharing information and ideas. No longer do our purchasing people in various parts of the world – including Europe and Asia – work in isolation. They are constantly communicating with one another through e-mail, fax and telephone. As a team we have identified specific Pall locations whose purchasing staffs coordinate our worldwide requirements for common materials and products. This ensures that all Pall locations receive the best price, terms and availability. We have indeed become a big company, but our ability to communicate effectively has enabled us to turn size to our advantage."*

Kathy Walsb  
Director of  
Purchasing

## PALL'S QUALITY LEADERSHIP AND INNOVATION

**T**he success of Pall Corporation during its first five decades is synonymous with the history of its quality leadership.

During the 1950s, Dr. Pall was proactively building quality into each of the company's filter products. Not content with just inventing technologically advanced filtration media, Dr. Pall also focused on designing robust filter configurations and the equipment to manufacture them. To help ascertain acceptable quality levels, he invented and patented the first non-destructive filter integrity test.

What Dr. Pall did for product quality, Abe Krasnoff did for service quality. As Chief Executive Officer for 20 years and the company's second Chairman of the Board, Abe made certain that everyone in the organization "always did what was right for the customer."

Pall's third Chairman and CEO, Maurice Hardy, took quality to another level. He led over 6,000 employees through continuous quality improvement training. He was also one of the first in the industry to see the importance of the ISO 9000 series of quality system standards. Beginning in 1987 with Pall facilities in Great Britain, he worked to bring the entire corporate universe of 40 facilities, including manufacturing plants, distribution centers and sales centers, up to ISO 9001 or 9002 standards.

*(Continued on page 21, column 3)*







Pall's current leadership team of (from left to right) Derek Williams, Executive Vice President and Chief Operating Officer; Eric Krasnoff, Chairman and Chief Executive Officer; and Jeremy Hayward-Surry, President and Chief Financial Officer, have made strategic quality planning the centerpiece of the company's worldwide efforts.

(Continued from page 20)  
Eric Krasnoff, Pall's current Chairman and CEO, has made strategic quality planning the linchpin of the company's worldwide effort to achieve customer satisfaction. Continuous improvement became the operating standard for all Pall activities, and Process Mapping a key tool by which to reach that goal. By understanding how a process works, Process Mapping makes it possible to eliminate bureaucracy and waste, reduce cycle times and, ultimately, provide increased value to our customers.

## High-End Separations Provides a Pathway Into the 21st Century

With its traditional fluid clarification business firmly established, Pall began posing in the early 1990s a provocative question: where would future sales and earnings growth come from?

The answer was soon forthcoming. Pall Corporation, under the new leadership team of Eric Krasnoff and Jeremy Hayward-Surry, would add the complementary field of high-end separations to its portfolio. And with that one bold stroke, the company increased the market potential for its products and technologies worldwide to over \$12 billion.

While the fluid clarification business is made up of thousands of small orders, much of it replace-

ment of disposable filters, the separations business represents for Pall a totally different set of dynamics — and opportunities. Complete separations systems, which remove large amounts of sludgy contaminants that are otherwise difficult to filter, can easily command prices of \$250,000 to \$2 million. Moreover, a sale can take as long as a year to 18 months to conclude.

Just as important, high-end separations gave Pall access to an exciting range of applications across its Fluid Processing, Aeropower and Health Care businesses that were previously out of reach.

Almost as soon as it was unveiled, separations proved to be an unqualified success. It was strengthened through Pall's acquisition of Filtron, whose microfiltration and ultrafiltration membranes meet the separation needs of customers in the laboratory and life sciences markets. By fiscal 1995 the expansion of Pall's business had helped the new leadership team achieve its avowed goal: restore double-digit, top-line growth. What's more, Pall now had a strategy for growing the business in a logical, cost-effective way that promised to carry it well into the 21st Century.

Underlying the quality initiative is the empowerment of each Pall employee to take personal responsibility for quality improvement and, in the process, reach their full potential.

Pall's leaders have indeed served as pioneers. At a time when very few companies in the industry were competing on the basis of quality, the company established itself as the quality innovator. This commitment has led to steadily increasing productivity, customer satisfaction and profitability. By refusing to accept the status quo, Pall has created a quality "mindset" that will continue to drive the company's performance well into the next century.

# www.pall.com Pall Takes Up Residence on the Internet

**On May 26, 1996, Pall Corporation took another giant step into the future. Our World Wide Web (WWW) site on the Internet was unveiled, and it was clear that marketing would never be the same.**

By tapping into the Internet, Pall became part of a frenzy that some compared to the Gold Rush era of the 1850s. Everyone wanted to be on the Internet. For businesses, it was an unprecedented opportunity to reach a worldwide audience, swiftly and cost-effectively. For customers, it meant easy access to the information they needed to do their jobs better.

With statistics showing that 30 million people currently have access to the Internet, and over 550 million are expected to have it by the year 2000, was there any other place to be?

Obviously not, Pall realized, and set to work designing a web site. This was no simple task given the tremendous competition for the customer's time. A way must be found to not only draw customers in, but keep them there with useful information. The ultimate goal: build a web site that is the definitive source for filtration and separations information.

As the early success of the site has since shown, Pall is well on its way. The site invites viewers to enter via a range of industries — microelectronics, health care, graphic arts, energy, industrial manufacturing, chemicals & plastics and aerospace/defense. Once there, they can navigate through a veritable sea of information — information that not only informs, but challenges customers to find a solution to their problems by partnering with Pall.

Pall's presence on the web is rapidly evolving, with the possibilities seemingly endless. New product roll-outs to worldwide audiences and electronic availability of product catalogs with full-color graphics loom on the horizon. And with real-time video on the Internet not far away, another exciting marketing dimension could soon be opening up for Pall.

For now, though, the first bold step has been taken. And Pall has at its fingertips an electronic platform to carry it well into the next century.

*Pall's World Wide Web site on the Internet is enabling the company to reach customers around the world more quickly and cost-effectively than ever before. The site invites users to navigate a veritable sea of information about the company and filtration in general.*

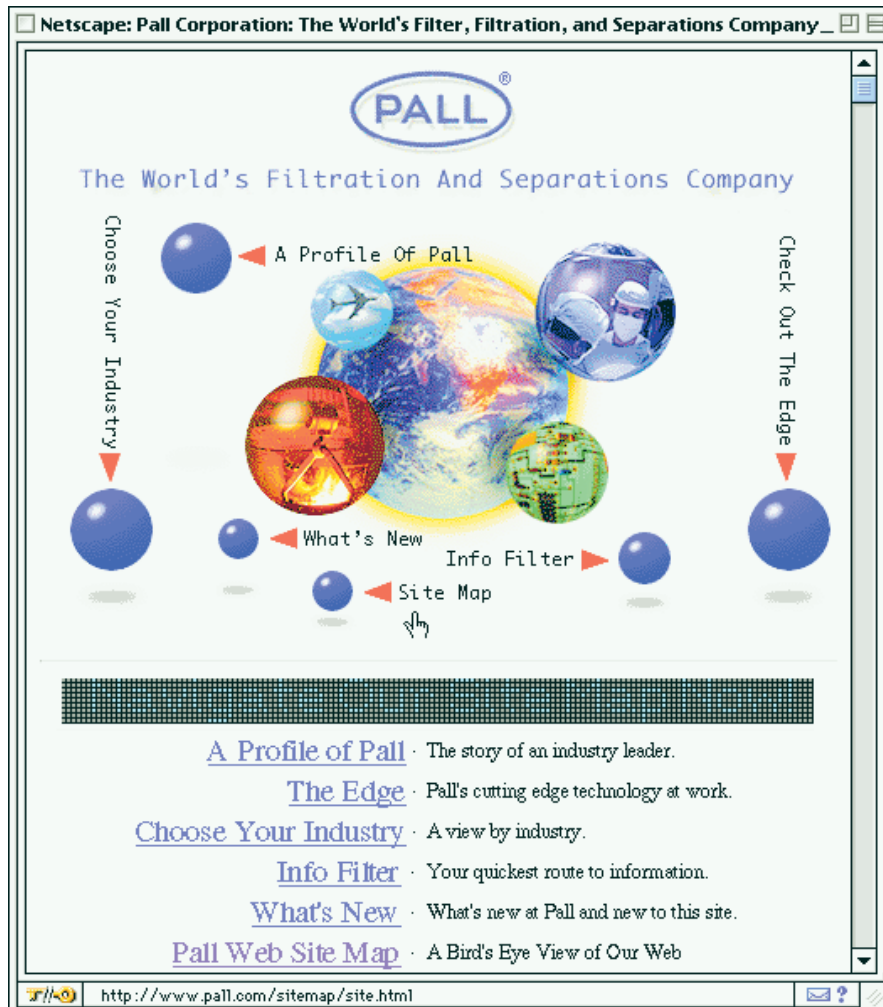
## MANUFACTURING FLEXES ITS GLOBAL MUSCLES



Nowhere does Pall's global strategy come into sharper focus than in the field of manufacturing, where some 17 plants worldwide meet the needs of customers with unprecedented speed and efficiency. By the 1990s, Pall had completed its long-range plans to duplicate its U.S. manufacturing operations in England and Japan, thus ensuring continuous production and uniform availability of its products throughout the world.

Today, six manufacturing facilities in the U.K. are nearly equal, in terms of capabilities, to Pall's North American operations, producing more than 80 percent of all finished products sold in Europe. This manufacturing base gives the company an inside track on opportunities within the emerging European Community, as well as within Eastern Europe, which holds tremendous promise for Pall down the road. In Japan, Pall facilities geared to specialized manufacturing supply over 30 percent of our products sold in Asia.

(Continued on page 23, column 3)







President Bush, with wife Barbara looking on, presents Dr. Pall with the National Medal of Technology on November 13, 1990, at a White House ceremony. The award is the highest honor the President can bestow on an American technologist.

## Dr. Pall Caps a Brilliant Career with the National Medal of Technology

**In the capstone to an illustrious career that has yielded 108 U.S. patents and the respect and admiration of his profession worldwide, Dr. David B. Pall was awarded the National Medal of Technology on November 13, 1990 by President George Bush in ceremonies at the White House.**

**T**he National Medal of Technology is the highest award bestowed on American technologists by the President. It recognizes extraordinary individuals for their outstanding contributions to improving the well-being of the United States through the development and application of technology.

Dr. Pall has indeed met that criterion. In a

career spanning four decades, he fathered technologies that spawned hundreds of successful products resulting in improved safety, efficiency and economy across a broad sweep of industrial and health disciplines. He used a rare combination of creative genius and business savvy to transform a one-man shop behind a shoe-shine parlor into an acknowledged world leader in the field of fine filters and fluid clarification devices.

For the soft-spoken, scholarly individual who read a book a day as a child, and knew at the age of 12 he would become a chemist, the National Medal of Technology was a fitting and, perhaps for those who know him, not unexpected tribute. He had risen to the top of his business field — but had remained a scientist throughout. He had built a company that reflected his values and intelligence.

Bram Appel summed it up best at a dinner several years ago honoring his life-long friend: "Pall Corporation is stamped with the ethos of David Pall. Because he is brilliant, David surrounded himself with brilliant people. Because he is modest, he surrounded himself with people who eschew arrogance. And because he is creative, he assembled an imaginative and highly inventive team that is the pure essence of Pall."

*(Continued from page 22)*  
The manufacturing process often begins in East Hills, New York, where products from our research and development enter prototype production and, when ready, are "exported" to Pall manufacturing facilities worldwide. Specialization and replication are the hallmarks of this global network. A blood filter product, for example, is produced at a state-of-the-art plant in Puerto Rico as well as at a comparable facility in Newquay, U.K., while filters for the semiconductor industry are produced at a plant in Cortland, New York and in Ilfracombe and Portsmouth, U.K. By the same token, filters for the aerospace industry emerge from Pall plants in New Port Richey and Pinellas Park, Florida, U.S., and in Portsmouth and Redruth, U.K.

*Pall's worldwide manufacturing network — along with a strong technical, distribution, sales and marketing presence that has built up around it — is enabling the company to operate locally many times over. And that's allowing Pall to capitalize on market opportunities it never thought possible 30 and 40 years ago.*



# Pall's Global Vision Comes into Sharp Focus

**Consider: if the world were today a town of 1,000 people, there would be 564 Asians, 210 Europeans, 86 Africans, 80 South Americans, and 60 North Americans.**

Pall began to see over 30 years ago that its real future lay outside the borders of the United States. The purchase in 1962 of a small engineering company in England made that global vision real. From there, Pall began to put in place the European building blocks of its expanding enterprise: subsidiaries with direct sales forces in Germany (1966), Italy (1973), France (1975), Switzerland (1983), Austria (1984) and Spain (1988).

Japan provided Pall with a beachhead in the giant Asian marketplace. For nearly 20 years, we worked with a distributor there who helped us achieve tremendous visibility within the Japanese pharmaceutical and electronic industries. His sudden death in 1980 left Pall with a huge vacuum in its Asian business. That changed dramatically with the creation in 1982 of Nihon Pall, our wholly owned subsidiary. Today, Pall products are believed to have the largest share of such major Japanese filter markets as pharmaceutical and fluid processing. In addition, Nihon Pall produces filters for the Japanese Defense Department and is a leading supplier of filters for medical applications. Few American companies have achieved that level of success in Japan. A similar pattern of success is emerging in Australia where

Pall acquired its distributor, Filter Pall, in 1994.

Pall has also become an active player in Singapore and Korea while in China, with its 1.2 billion people and steady drive toward a free market economy, we're gaining a strong market position through such products as our cold beer stabilization system and Pall blowback and backwash filter systems for the country's oil processing and chemical industries.

Determined to establish a presence wherever growth opportunities exist, Pall has more recently been developing its Eastern European business. In 1992, we formed Pall Poland Ltd., which currently has 23 employees, and set up a representative office in Moscow staffed by Pall people to serve the Commonwealth of Independent States (CIS), including Russia. The company also has offices in Hungary and in the Czech Republic.

The latest region of emerging opportunity for Pall is India. In this land of nearly a billion people, we hope to start trading by the end of the year (and eventually build a factory) through a joint venture, based in Bombay, with an Indian partner.

In retrospect, our entry into the global market 35 years ago has had significance beyond anyone's imagination. Today, 60 percent of Pall sales are generated outside the Western Hemisphere. That includes about 41% from Europe and 19% from Asia. We have a well-established manufacturing presence in England, Puerto Rico and Japan, and have entered into alliances with a number of global partners that have given us a vast and powerful presence in regions of the world where we need to be.

At Pall, we have truly sown the seeds of globalization over the years — and are now reaping the rewards.

## GROWING THE PALL FAMILY

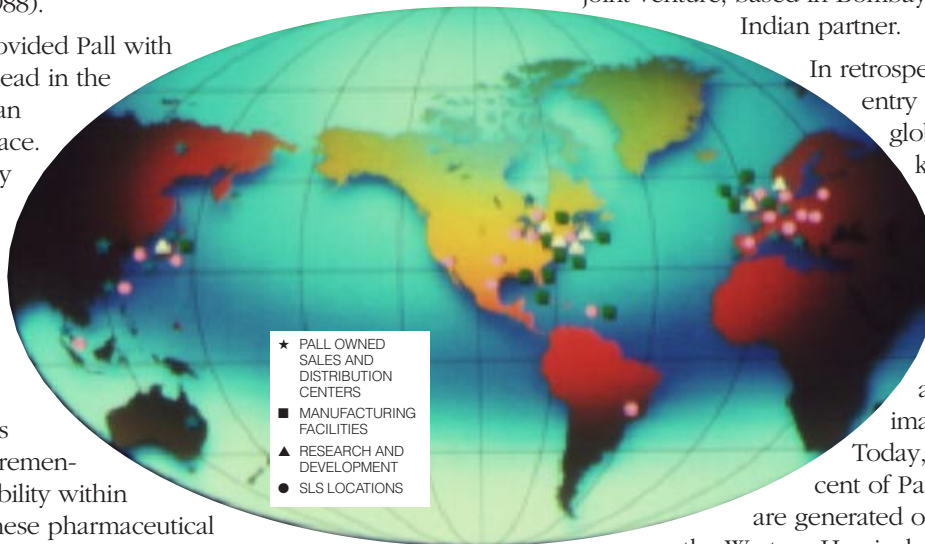


**T**hroughout its history, Pall has partnered with companies that have strengthened and expanded its market presence. In 1960, for example, the purchase of Hollinger Machine Co., Ltd., SaniHydro Corp., Ltd. and Beaumont Pumps Co., Ltd. gave Pall entree to the vast Canadian marketplace.

More recently, the acquisition of Filtron Technology Corporation in January of 1995 provided Pall with a foothold in the huge laboratory and life sciences markets. Pall Filtron, based in Northborough, Massachusetts, employs 75 people in the U.S., Germany, France, Scandinavia and The Netherlands.

Another recent acquisition involving the Medical Plastics business unit of Bayer Corporation increased Pall's presence in the patient protection field. More specifically, it led to the creation in early 1996 of Medsep Corporation, a 450-employee business which manufactures and sells plastic blood collection systems used in the collection and processing of whole blood components. Pall filters are integral parts of these systems, permitting leukocyte reduction of blood components prior to their storage at regional blood centers.

Pall Filtron and Medsep Corporation are indeed proving to be outstanding examples of how to grow a modern day family.





# CELEBRATING PALL'S PEOPLE

*Feliz Aniversário de 50 Anos*

PALL NEWQUAY, UK

Pall Newquay

EUROPA HOUSE, UK



POLAND

*Happy 50th Anniversary!*

PALL NEWQUAY, UK



WALTON ROAD, UK

*Hinrichsen Gedenkversuch  
Zum 50. Jahrestag Guckelberg*



MEDSEP, USA



MEDSEP, USA



PALL FILTRON, USA

EAST HILLS, USA



PALL RAI, USA



NEW PORT RICHEY, USA



FORT MEYERS, USA

*Byon 50 Aniversario!*

EAST HILLS, USA



# CELEBRATING PALL'S PEOPLE

JAPAN

SPAIN

恭賀50周年紀念

Okazji Jubileu 50

JAPAN

AUSTRALIA

SPAIN

Feliz Aniversario de 50 Años

KOREA

HAPPY 50th ANNIVERSARY!

ITALY

ITALY

Feliz Aniversario 50 Años

Herzlichen Glückwunsch  
Zum 50 jährigen Geschäftsjubiläum



Joyeux 50 Anniversaire

Happy 50th Anniversary!

Feliz Aniversario de 50 Años

¡Feliz Aniversario!



SWITZERLAND



HONG KONG

GERMANY



GERMANY

CANADA



恭賀50周年紀念

FRANCE



FRANCE

Happy 50th Anniversary

PUERTO RICO



AUSTRIA



TAIWAN



PUERTO RICO

50周年記念おめでとうございます!



# CELEBRATING PALL'S PEOPLE

*Feliz Aniversario de 50 Años*

*Okazji Jubileuszi 50*

CHINA

INDONESIA

SINGAPORE

CHINA

SINGAPORE

*Joyeux 50 Anniversaire*

恭賀 50 周年 紀念

PTM CORTLAND, USA

PALL ILFRACOMBE

**HAPPY 50th ANNIVERSARY!**

PTM CORTLAND

RUSSELL ASSOCIATES, USA

*Feliz Aniversario 50 Años*

PTM CORTLAND, USA

PALL TRINCOR, USA

50 周年 記念 おめでとうございます!





Filtration.

Separation.

Solution.™