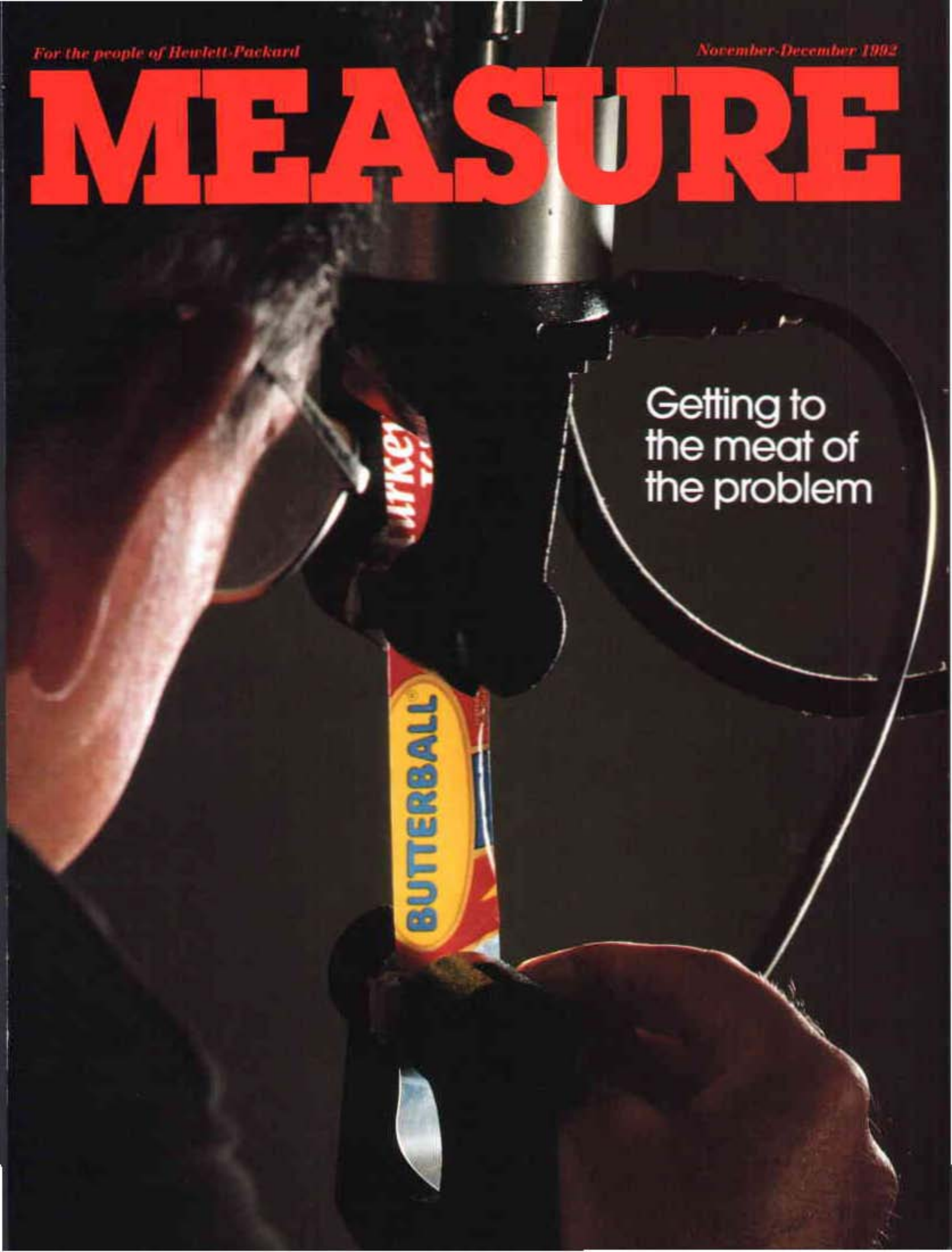


For the people of Hewlett-Packard

November-December 1982

MEASURE



Getting to
the meat of
the problem



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On the cover: Joe Craine tests the tensile strength of packaging material for a new line of Butterball turkey breasts. The story begins on page 14. Photo by Eric Futran/Liaison International.

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Measure is published six times a year for employees and associates of Hewlett-Packard Company. It is produced by Corporate Communications, Employee Communications Department, Mary Anne Easley, manager. Address correspondence to *Measure*, Hewlett-Packard Company, 20BR, P.O. Box 10301, Palo Alto, California 94304-1181 USA. The telephone number is (415) 857-4144.

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Measure magazine is printed on recycled paper

MOVED LATELY? CHANGE OF ADDRESS SHOULD BE REPORTED TO YOUR PERSONNEL DEPARTMENT

Beyond the

GLASS HOUSES

By Jay Coleman

A challenging effort to consolidate HP's information systems is improving service and saving millions of dollars in the process.

You probably haven't noticed, but there's a good chance that the glass-enclosed computer data center at your site isn't there any more.

That's because most data centers throughout HP are being consolidated into more efficient and cost-effective information-technology centers (ITCs)—and the company stands to save millions of dollars annually and improve customer service at the same time.

"This past August I was on vacation while our local data center moved to the Sunnyvale ITC," says Components Group controller Steve Brashear. "Among my HP Desk messages when I returned was a complimentary note from our heaviest user group. As it turned out, the data-center move was absolutely transparent to our users. It was spooky how smoothly the consolidation went.

"I was involved when that data center moved from Palo Alto (California) to San Jose in 1985; it took about three

Glass houses



By 1994, HP should have 5 information-technology centers in the United States, 6 in Europe and 4 in Intercontinental Operations.

weeks and it was a real headache.”

Adds Dominique Courcoux, European IT manager, “We’re still providing full service. An end user used to go upstairs to the glass house, bang on the window and say, ‘When am I going to get my printout?’ Well, the printout is still in the same location in the building, but the ITC may be hundreds of miles away.”

The ITC consolidations are part of an aggressive three-year plan to solidify HP’s fragmented approach to data-center operations. The plan was part of the 1992 fiscal-year CEO Hoshin

(breakthrough) objectives that then-President John Young announced in January 1992.

“We don’t have all the answers yet, but we’ve shown (the concept) works.”

By 1994, HP plans to go from 151 data centers worldwide to 15—4 in Intercontinental Operations, 5 in the United States and 6 in Europe.

How much will the consolidations save HP? An estimated \$30 million a year in the United States, \$20 million to \$30 million in Europe and \$5 million in Asia Pacific.

That’s major savings.

But the advantages are much more than financial. Most importantly, the consolidations provide a consistent infrastructure that will increase HP’s ability to rapidly deploy new business applications and processes.

The consolidations also represent a perfect opportunity to take advantage of new technology and to re-examine HP’s processes.



ITC consolidations will save money and increase efficiency, says Jan Stambaugh, who heads the overall integration effort.

For example, say there are 12 libraries in Colorado Springs, Colorado, each with 1,000 magnetic tapes numbered from one to 1,000. If an operator gets an instruction to mount tape No. 861, he or she has 12 choices to make. That could lead to real chaos.

“Once we’ve renumbered the tapes,” explains Jan Stambaugh, who heads the overall ITC integration effort, “we can look at the process in a fundamentally different way. For example, it requires some manual effort to mount magnetic tapes or optical disks on the computer. Automated stackers with

digital-audio tapes would reduce the physical involvement; however, we have a task force working on this

The consolidations will help solidify HP's fragmented approach to data-center operations.

issue, including using a technology that ‘shadows’ or ‘mirrors’ data so it doesn’t have to be backed up at all, except for archival purposes.”

Even those hulking mainframe computers in the glass-enclosed data centers ultimately will be phased out. In their place will be HP Corporate Business Systems (code-named Emerald during their development; see box on page 6)—minicomputers that provide all the power of mainframes in one-tenth the space.

The consolidations, however, present a large set of challenges: ■ First and foremost is the people issue. Many of the 1,200 HP employees working in data centers will need to transfer to other jobs when most

Glass houses

Emerald: a jewel that outshines mainframes

In a world where all companies are searching for ways to reduce the cost of doing business and increase customer service, HP has hit upon a true gem.

In May 1992, HP introduced a new class of RISC*-based business computers, software and customer-support programs called the HP Corporate Business System.

Code-named Emerald during its development, the new system provides an alternative to traditional mainframe computing at up to 80 percent lower cost-of-ownership.

In the past year, more than 100 IBM customers have offloaded or replaced applications from their

mainframes to HP's business systems and servers. According to Dataquest, a research firm based in San Jose, California, more than 46 percent of mainframe sites surveyed during 1991 are in the process of downsizing.

"Emerald offers a great opportunity for our ITC consolidation efforts," says Anna Holland from the Sunnyvale, California, information-technology center. "I don't think any small entity could justify the cost of Emerald, but the ITCs can. As far as my profit-sharing check is concerned, the ITC consolidations are the right thing to do."

While the systems cost as much as \$925,000, the high-end models are one-third the cost of Digital

Equipment Corporation's EC VAX 9000 mainframes and one-fifth the cost of IBM ES/9000 mainframes.

HP's Corporate Business Systems are the size of an average refrigerator. Mainframes with the same level of performance fill an average kitchen—10 times the space.

The HP systems are designed to perform more than 400 transactions per second—more powerful than 90 percent of installed IBM mainframes.

**RISC stands for reduced-instruction-set computing.*

data-center functions are folded in to ITCs.

After consolidation, data centers that required a staff of two dozen people can—as part of a larger center—operate with as few as half the number of employees as before. They will continue to support HP Desk and local-area networks, as well as provide other logistics support.

Lloyd Taylor, director of Information Systems, began preparing his organization to examine its business practices in sweeping new ways in 1991 when he introduced training on Managing Organizational Change (MOC). Since then, 2,400 people have completed MOC training, including 70

percent of IT managers and supervisors worldwide.

Data-center users in HP factories and field offices need to adjust to a

“...most users never went inside a data center...the location of the facility is transparent.”

change, too. After a consolidation, they need to get used to service and support from an ITC that probably is several miles away.

"I don't see that as a problem," Steve Brashear says, "because most users never went inside a data center anyway. Their only interaction is through a wire. Otherwise, the location of the facility is transparent.

"And from a controller's standpoint, not having a data center means we don't have to worry about things like internal audit, security and disaster recovery. Instead, we can focus on more strategic initiatives, such as order fulfillment."

■ The second challenge involves international consolidations.

"We're working with 16 countries," says Rick Bergan, IT manager for HP's

Intercontinental Operations. "It's one thing to ask people to relocate within their country; this becomes a more significant challenge when you start to cross borders."

Some countries in Asia Pacific, Latin America and Europe don't

"Telecommunications expenses can be 5 to 20 times higher in European countries..."

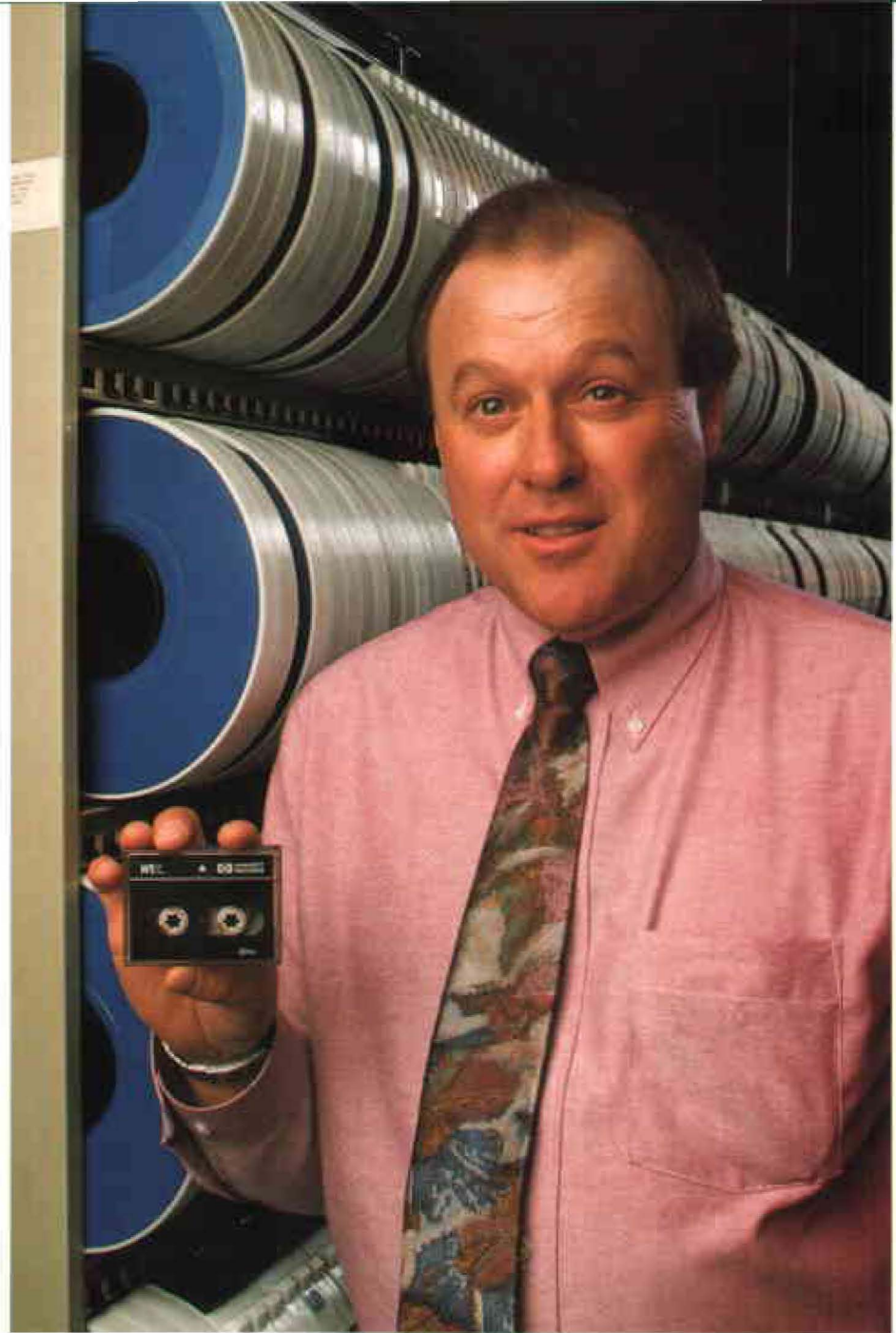
yet have the telecommunications infrastructure to support the ITC consolidations.

Says Dominique Courcoux, "Telecommunications expenses can be 5 to 20 times higher in European countries than they are in the United States. If we become too aggressive with our consolidations, the telecom expenses will eat up our cost savings."

■ A third challenge is factory-field integration. While U.S. ITCs support either factories or sales offices, ITCs in Europe (except Brussels) and Intercon span both.

"Clearly, that's an extra dimension of complexity," Dominique says. "We have to convince both sets of management that the ITCs will support them with the same or better service than they had before. You have to help them over that hurdle of anxiety."

For most HP people, ITCs will bring expanded service, Corporate's Jan Stambaugh notes. For instance,



Digital-audio tapes hold 1.3 billion characters—nearly 10 times as much information as magnetic tapes—notes Steve Loveless, ITC manager at Colorado Springs, Colorado.

data centers typically offer a "help" desk for applications such as HP Desk only eight or 10 hours a day, five days a week. The combined resources of an information-technology center bring 24-hour, seven-day-a-week access and support.

■ International consolidations, which may involve language and cultural differences, mean a fourth challenge.

"We tested the water and proved it could be successful with smaller country organizations like Singapore, which merged data centers from Singapore, Malaysia and Thailand," Rick Bergan explains. "We don't have all the answers yet, but we've shown that the concept of data-center consolidation works." ■



The demand for HP DeskJet printers has kept forklift operator Kerry Tingley and others buzzing around the Vancouver Division.

The eight-year, overnight success story

Inkjet technology has been with us a long time. Now, suddenly, it's everywhere.

By Sam Lightman

VANCOUVER, Washington—"I had people asking me how things were in Canada. Now they don't do that any more, because they know exactly where we are."

The speaker is Alan Grube, marketing manager for HP's Vancouver Division (VCD), which, as everybody knows, is in the state of Washington. The reason everybody knows this is because Vancouver is where HP DeskJet printers are hatched, and HP DeskJets are rapidly taking over the earth—or at least that portion of it covered by computer printers.

Case in point: the story about HP's recent successes which appeared not long ago in *The Wall Street Journal*. The writer cited a report by the

market-research firm BIS Strategic Decisions that the HP DeskJet had become the world's best-selling printer. That is big news in a world grown accustomed to Japanese dominance in electronics manufacturing.

HP DeskJets are cascading out of computer superstores and roaring out of retailers like BizMart and Sears, as well as pouring forth from all the customary computer resellers. By the end of the year, with nearly 5 million units in place, HP DeskJet printers will begin to challenge even the venerated HP LaserJet printer in total sales.

"Originally," says Jim Browning, Vancouver's manufacturing engineering manager, "we thought we were in the computer business. We didn't

know we were in the consumer-electronics business. I think we're all pretty sure now."

Consumer electronics? Sears and BizMart? "ThirtySomething" and CNN? Can this really be the HP that

"...we expected to build 9,500 a month... We took 28,000 orders the first month."

people all know and love? You betcha, and in the words of long-gone comedian Jimmy Durante, "You ain't seen nothin' yet."

"What we found with the HP DeskJet printer was a highly elastic market," says Jim, sounding like a marketing guru. "Every price reduction has been accompanied by huge volume increases. The question is, how elastic? It's been a heck of a ride."

A heck of a ride, indeed. The Vancouver Division began life in 1979. It spent the first five years as a nursemaid to a bunch of orphan printing products that no one else wanted—some at the end of their lives, some at the very beginning, and trying to gain a foothold. The HP ThinkJet printer, for example, was developed in the Corvallis Division labs and shipped up to Vancouver for introduction in 1984. It was to be the first effort to market the inkjet concept.

"Inkjet technology was in the closet for a long time," recalls Bob Weis, group marketing manager. "Not widely accepted. People considered it to be a messy technology. Was it going to spray ink all over? There



Greg Wallace, Nancy Matela and Evan Neptune are part of a strategic management team that charts business directions.

were some real concerns about whether it was viable.

"It was really hard when we first introduced the ThinkJet to go out and brag about the product because it was so easy to pick on," Bob says. ThinkJet was a 96-dot-per-inch (dpi)—i.e., draft-quality—printer. It required a special clay-coated paper. The ink needed a certain amount of time to dry, so you couldn't just grab the copy out of the printer. And it wasn't waterproof, so whole pages vanished when the coffee spilled, and labels ran in the rain.

From the HP ThinkJet introduction on, there was a series of programs designed to create a 300-dpi printer. "The chemists in the Corvallis Division, where the inkjet cartridges are manufactured, went to work—all these people in white coats focusing on the ink," Bob continues. "They

have done a remarkable job. For some competitor to come along and try to duplicate their effort now is going to be very difficult."

Although many of the problems with the ink still had not been mastered, the research indicated that the technology was strong enough to appeal to the target market. So in 1988 Vancouver introduced its first 300-dpi inkjet product—the HP DeskJet printer. "When we released it, we expected to build 9,500 a month," says Dick Snyder, VCD general manager. "We took 28,000 orders the first month."

Then, silence.

"Typically, when you introduce a product, the dealers go intuitive," Bob notes. "With the DeskJet, they were very bullish, so they ordered a large number of units. The next month, they were still waiting for the first units to sell through. So the orders went from 28,000 to zero, or even negative, as we got returns and cancellations." Slowly, sales began ramping up.

The following year, the HP DeskJet PLUS printer presented the market with faster printing and improved features. Sales improved, but something was still wrong.

"We had an overt strategy—we called it drafting the 18-wheeler—of slipping in behind the HP LaserJet printer," Alan Grube notes. "We imagined ourselves on a bike peddling like crazy behind this behemoth, trying to hook onto it or slip into its draft, because of the awareness, the channel presence and the marketing muscle they had over there (in Boise, Idaho, where the HP LaserJet printers are manufactured)."

"In fact," adds Dick Snyder, "trying to model ourselves around the laser business almost caused us to fail.

Vancouver

That initial stall we went into was a result of our trying to position ourselves as an alternative to lasers. What we found was, people were going from dot matrix to lasers and skipping right over us."

The turning point came with the introduction of the HP DeskJet 500 printer. Along with the Windows drivers, the additional fonts and the waterproof ink, the HP DeskJet 500 printer came to the market with a dramatic price reduction. At the same time, Vancouver marketing positioned the new printer where it needed to be—as an alternative to the dot-matrix printer.

"We got our dealers to simply move the DeskJet across the room from the laser side to the dot-matrix side," says Dick. "The results were startling." A demo program that augmented the new positioning more than doubled sales once it went into effect.

With the HP DeskJet 500, HP's inkjet business began to stand on its own. Inkjet became a legitimate category by meeting user needs better than dot-matrix printers.

The result has been a huge success. While printer sales overall are grow-

"Every price reduction has been accompanied by huge volume increases."

ing by 6 percent a year, sales for HP inkjet printers are up 45 percent.

The Vancouver Division plans an estimated \$40 million to \$50 million expansion, beginning with the addition of a 250,000-square-foot manufac-



The HP DeskJet 500C printer that Midori Espinoza and Larry Gonzales assemble was HP's first effort to drive color printing into mainstream office applications.

turing facility on its present site. Another 400 people are being added to the payroll, bringing the total by year's end to an expected 1,800.

"Our production volumes are forcing us to rethink many of HP's traditional manufacturing practices, and complicate how we manage our growth," Jim Browning says. "We've been fortunate because our people have risen to the challenge and have been very supportive."

"There's still a lot of opportunity out there for us," says Alan. "We're at about 10 percent of market share right now. Dot-matrix printers have about four or five times that in terms of units. So we still have lots of opportunity to wreak more havoc on them."

"The largest market segment of printers sold today falls between \$250 and \$350, street price," says Bob. "We haven't arrived at that price yet."

One aspect of Vancouver's strategy is to make inkjet technology pervasive—to "commercialize" it and get it into broad mainstream markets.

Vancouver also has applied the technology to plotters, calling them wide-format printers. "We can improve accuracy, performance, speed and certainly price for computer-

aided-design applications with our HP DesignJet products. And we're actively pursuing multi-function," he adds. That means that some day, probably sooner than later, your HP inkjet printer also will serve as your fax, scanner and copier.

A second aspect of Vancouver's strategy is to use color as a differentiator. The HP DeskJet 500C, introduced in October 1991, represents the first shot in the war to keep market share in the HP family by driving color printing into office applications.

"We've certainly achieved the vision I think all of us had," concludes Dick Snyder. "We've become a major player, and we've legitimized and commercialized the technology. We've taken a major amount of business away from the dot-matrix players and we'll do even more of that.

"Now the new vision is to continue to grow, learn how to operate as a big business and stay ahead of the pack. Because now, everybody's gunning for us." ■

(Sam Lightman is a free-lance writer who lives near the other Vancouver.—Editor)



DAN EDUINO

It took midnight oil and dedication for HP Spain's Medical team to help apply a powerful dose of systems medicine to the behind-the-scenes operation of 112 hospitals.

A doctor reassures a patient at Madrid's Getafe Hospital, one of the public hospitals and clinics through which Spain provides universal health coverage.

A pain-killer for hospitals in Spain

By Betty Gerard

MADRID, Spain—A few years ago, the wait for admission to a large public hospital in Spain could take three or four months. It was common to put in one's name at several hospitals at the same time, adding to the inaccuracy of bloated waiting lists.

Today, in 112 large public hospitals in Spain, a model hospital information system tracks admissions and other behind-the-scenes functions that support patient care. It speeds up hospital access by providing up-to-the-minute data on available beds and patient stays.

HP Spain's Medical Products Group organization played a key role

in working with INSALUD, the agency which coordinates regional health-care services, to develop an open system that could be adapted to each hospital.

Using a common database, the system automates:

- administrative management, including accounting, purchasing, supplies and invoicing;
- patient management such as admissions, external consulting services and medical records;
- personnel management, including payroll; and
- operating room scheduling, the newest feature.

INSALUD

Services such as the pharmacy and labs soon will be added, working with third parties and software houses.

A team from HP and two other firms worked an intense 18 months in a Madrid hospital to come up with a reliable prototype system for patient management. Another four months were spent in a Mallorca hospital on a general administration module.

"It was a clear opportunity, but it was not easy," says Juan Soto, general manager of HP Spain, who thinks the Medical team may have worked harder for more months than any other HP team on the big project.

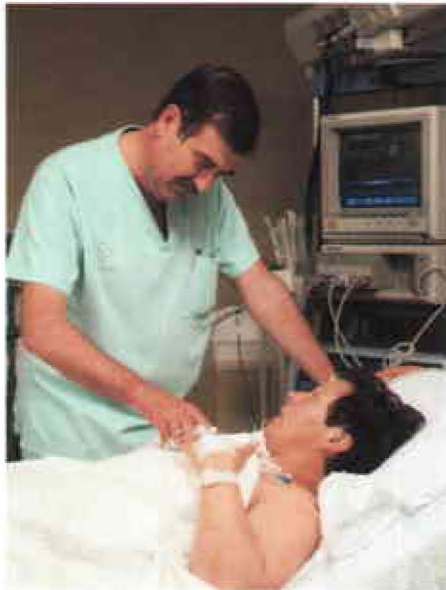
Altogether, the INSALUD hospital-information-system is the most important order that HP Spain has received in its 17-year history. Javier Colas, Medical manager, is credited as the visionary who in 1987 recognized the possibility of administering a powerful systems pain-killer to remedy the administrative tie-up in the country's public hospitals.

The complex INSALUD project, known as DIAS (Dotacion Informatica Para la Asistencia Sanitaria), has evolved by stages, with the number of hospitals doubled along the way and the mix of vendors changing. HP's participation has steadily increased, with HP hardware now used in half

"It was a clear opportunity, but it was not easy."

of the 112 hospitals with the DIAS system and HP providing support and training for the system in all of them.

How did such an ambitious project come about? The climate for hospital information systems in Spain was



Dr. Andres Esteban, who manages Getafe's intensive care unit, is a believer in hospital computerization.

chilly in 1987, since INSALUD had been dissatisfied with an earlier project (in which HP was not involved).

At Bellvitge Hospital in Spain's Catalonia region, however, the need to automate hospital administration was quite clear to Juli Bou, information systems (IS) manager. He worked with Ernesto Sales and Carmen Sauca, college students at the hospital on a Polytechnical University of Barcelona work-study program, to automate the admissions and payroll processes, using an HP 3000. Familiarity with HP gear led to Juli, Ernesto and Carmen joining HP Spain in 1986. They later became part of the INSALUD effort.

Coincidentally, the manager of INSALUD in Madrid asked five companies, including HP, to submit a framework for the future of information systems in the country's public hospitals. HP was among those proposing an open solution, based on standards and European Community (EC) guidelines. Their recommendation was accepted by INSALUD as the basis for a request for proposals.

While HP's Medical Products Group ordinarily contracts with channel partners for software development, HP Spain was given high-level blessing and resources to help

develop a prototype system along with Italsiel of Italy and ERIA of Spain.

In June 1988, a joint software team of 30 people from the three firms set up shop at the Princessa Hospital in Madrid. Juli Bou served as overall manager and HP Spain sent 15 people, including Ernesto and Carmen and a number of students from universities in Madrid and Barcelona.

Recalls Ernesto, "The students were so excited to be assigned to such a meaningful project—sometimes they worked until they fell asleep at their terminals. We had to remind them to keep up their studies."

Javier Colas, driving home from a late meeting at the Ministry of Health, saw lights still on in the team's headquarters at midnight. "Sometimes we

"Sometimes we were pushing them out of the hospital."

were pushing them out of the hospital," he says. "They weren't just doing a job but putting their best effort into a project that would have a major impact on the country's health care."

The deadline to submit proposals for the first phase was the end of 1988. For two days, Medical mounted an around-the-clock push to assemble 142 binders, including a customized version for each hospital, and just beat the deadline.

After the final contract was signed in May 1989, several other vendors with pieces of the INSALUD contract arranged with HP to provide the actual software and support services. A Medical Project Center was set up within Medical Support.

While hospitals in large cities in Spain usually have clinical information systems and their own IS staff, the first 87 hospitals receiving a DIAS system had no computers. It was difficult in small towns to hire anyone locally who was familiar with UNIX* operating systems.

There were also installation challenges. The hospitals had no computer rooms, so suitable space had to be found—and sometimes it was necessary to start by explaining what a computer room is. A lot of cabling was required for the personal computers and printers in the system.

Training some 2,000 people was also an enormous job. Jose Zapata, Medical Support manager, remembers that all training rooms in the Madrid office were filled for weeks as HP trained hospital managers and other users, along with IS professionals.

In all 60 of HP's hospitals, hardware now has been upgraded to the HP 9000 Models 827, 867 or 870; in 1993 more will move to the Model 867.

One of the showcase installations of DIAS is in Madrid's busy 600-bed Getafe Hospital. During January 1992 it handled 10,000 patients, who received an average of six tests each. "It's impossible to enter all this data manually," says Dr. Conception Vera, general manager. "It's necessary to have a large system like this to capture all the basic information."

The hospital's IS staff has written several dozen programs based on the DIAS data. Dr. Vera knows, for example, that since January the average patient stay has dropped, operating rooms are more fully used, and more outpatients are being served. She can also track costs associated with diagnostic-related groups of treatments for which the government has set expense caps.



Computer power is critical for processing data on patient admissions and treatment at Getafe Hospital, General Manager Conception Vera tells HP's Javier Colas.

Dr. Andres Esteban, manager of the hospital's intensive care unit, has a local-area network of PCs that runs independently of DIAS. It soon will be replaced with an HP CareVue 9000.

He gives HP people high marks for recognizing that it is necessary to design programs together with physicians, whom he sees as "developing more computer literacy." He says, "It's impossible to stop. Computerization is part of the evolution of the hospital—you can't refuse it."

Linking such departmental solutions into DIAS is a next step for the Medical Project Center. Ildefonso Diaz, MPC manager, is encouraging

management for the Medical sales force. HP Spain already had a strong penetration of the medical market, which this has markedly enhanced.

"The hospital market is really defined," Juli says. "We know personally all the managers of each hospital in Spain. Those hospitals with 300 or more beds are our key target market." Only two regions in Spain—Basque and Navarra—don't have open systems yet.

The prediction is that in 10 years Spain will be the world leader in the field of hospital information systems. No other country will have all its major hospitals linked centrally through open systems.

Javier Colas, who thinks long-range, believes strongly in the synergy between hospital information systems like DIAS and medical instrumentation. He expects to see their convergence in a unified information-rich environment throughout the health-care field.

In Spain, where HP is already the major vendor of information technology for the hospital, the door is open for even greater success. ■

"Computerization is part of the evolution of the hospital..."

several hospitals and third parties to develop departmental solutions that could be integrated into the software.

Juli Bou, now Health Care Information Systems (HCIS) district manager, points out that HP's involvement in the DIAS project has resulted in new high-level contacts with hospital

*UNIX is a registered trademark of UNIX System Laboratories Inc. in the U.S.A. and other countries.

Getting to the meat of the problem

DOWNERS GROVE, Illinois—Norm Fraley's biggest challenge three years ago was to convince some of his meat-industry colleagues that using high-tech equipment wasn't just a bunch of baloney.

"Biochemistry in the meat industry was unheard of," says Norm, who manages instrumentation chemistry at the Armour Swift-Eckrich Product Development Laboratory west of Chicago.

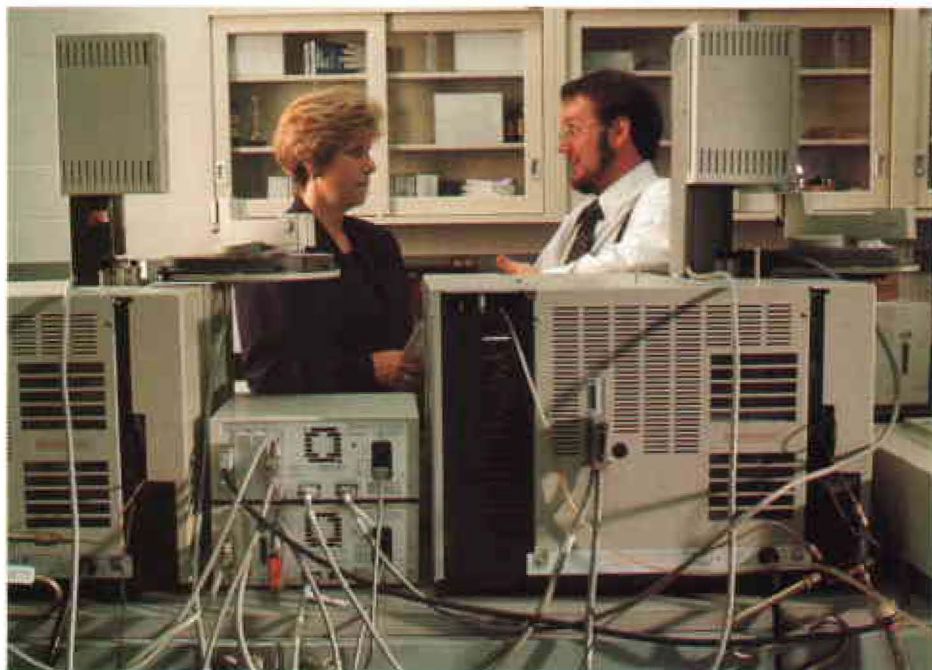
Three years later, with a large dose of help from Hewlett-Packard gear, the country's second-largest processed-meats producer is a leader in food technology.

Norm and a new breed of food-chemistry scientists joined Armour Swift-Eckrich, an independent operating company of food giant ConAgra, just as the company detected two key trends:

- a consumer demand for increased nutritional information; and
- impending United States Department of Agriculture (USDA) requirements for companies to display complete nutritional information on retail packages.

"Every quarter the USDA analyzes samples of the 1,600 products from our plants to ensure that we're in compliance," Norm explains. "If we're not, they could shut us down. We're working with perishable items that can't sit in a warehouse waiting for government approval."

Armour Swift-Eckrich, makers of enormously popular items such as Butterball turkeys (200 million pounds a year), and Armour and



Healthy Choice meats, uses HP gas chromatographs, liquid chromatographs, super-critical fluid extractors and UV/visible spectrophotometers to perform the critical tests.

In three years, the results have been remarkable: Analyses that used to take two to three weeks now take five days, and the lab runs 48,000 analyses a year compared with 8,000 in 1989.

"The HP equipment puts us at the forefront of advanced technology in the food industry," Norm says. "We're exceeding government requirements and giving consumers a healthier product. Those are real benefits any way you slice it." ■

—Jay Coleman



above

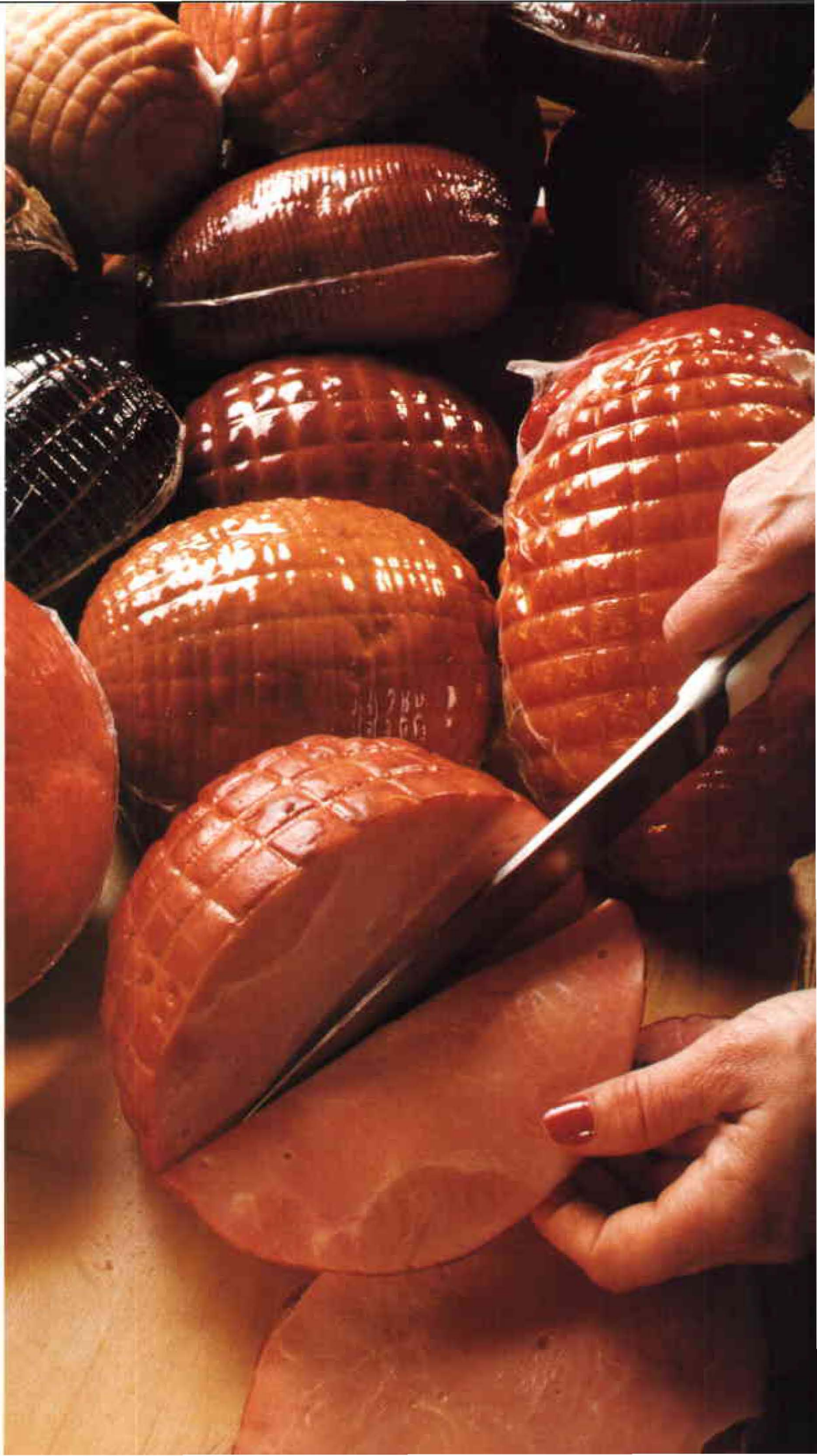
Processing meat has been mostly an art in the past 120 years, says lab manager Bill Trujillo. With today's advanced technology, it's a science.

left

"The food industry in general offers many good business opportunities for HP analytical equipment," says HP sales rep Terri Simpler, shown here with Armour Swift-Eckrich's Norm Fraley.

right

Apple, maple, Bavarian and mesquite are just a few of the flavors of hams that Armour Swift-Eckrich employees have tested in its pilot plant adjacent to the Product Development Lab.



Meat

PHOTOS BY ERIC FURBER/LAMBSON INTERNATIONAL



above

Facility manager Charlie Ferry (left) and Bill Schwartz, director of product development for the Butterball Turkey Company, review the innovative, two-year-old lab, located next to Armour Swift-Eckrich's headquarters in Downers Grove, Illinois.

right

Eli Jones grinds 90 percent-lean beef in the pilot plant processing area. HP's blend of measurement and computation products is helping meet consumer demands for higher-nutrition foods.



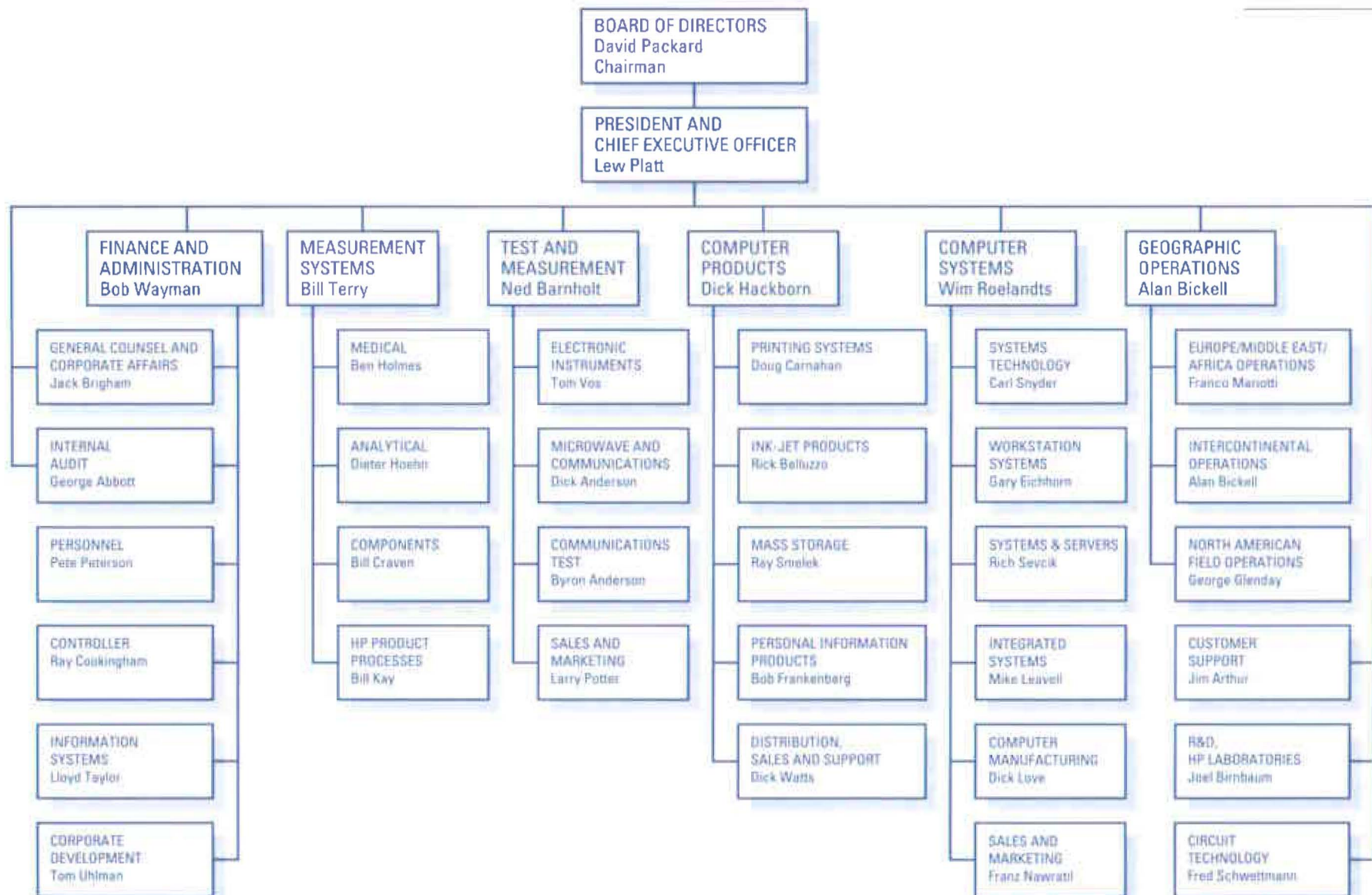
right

In the Chem Lab, (from left) Jack Cappozzo, Teck Tiong and Sally Martinez use an HP ChemStation to run a fat analysis on animal tissue. Analyses today can include fat, protein, salt, moisture, cholesterol, dietary fiber and a host of other ingredients.



Hewlett-Packard Corporate Organization

November 1992



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Senior Vice President and Director
Field Sales Regions: France, Germany, Italy,
United Kingdom, European Multicountry
Manufacturing: France, Germany, Italy, Spain,
United Kingdom

NORTH AMERICAN FIELD OPERATIONS

George Glenday
General Manager and Director
Field Sales Regions: U.S. (Eastern, Mid-America,
Neely), Canada

INTERCONTINENTAL OPERATIONS

Alan Bickell (acting Director)
Field Sales Regions: Asia Pacific, Latin America
Manufacturing: Brazil, China, India, Japan, Korea,
Malaysia, Mexico, Singapore, Taiwan

Finance and Remarketing Division

WORLDWIDE CUSTOMER SUPPORT OPERATIONS

Jim Arthur
Senior Vice President and General Manager
Professional Services Division
Software Technology Division
Support Materials Organization
System Support Division
Response Center Operations
Europe Field Operations
Americas Field Operations
Asia Pacific Field Operations

RESEARCH AND DEVELOPMENT

Joel Birnbaum
Vice President R&D and
Director, HP Laboratories

HP Labs, Palo Alto
HP Labs, Bristol
HP Labs, Japan

CIRCUIT TECHNOLOGY GROUP

Fred Schwettmann
Vice President and General Manager
Hewlett-Packard Oki Printed Circuit
IC Business Division
Printed Circuit Division

FINANCE AND ADMINISTRATION

Bob Wayman
Executive Vice President

**GENERAL COUNSEL AND
CORPORATE AFFAIRS**

Jack Brigham
Vice President

CORPORATE LEGAL

General Legal
Intellectual Property

COMMUNICATIONS

Roy Verley
Director

GOVERNMENT AFFAIRS

Bob Kirkwood
Director

GRANTS

Rod Carlson
Director

INTERNAL AUDIT

George Abbott
Director

PERSONNEL

Pete Peterson
Vice President

CONTROLLER

Ray Cookingham
Controller

INFORMATION SYSTEMS

Lloyd Taylor
Director

CORPORATE DEVELOPMENT

Tom Uhlman
Director

TREASURY

George Newman
Treasurer

TAX AND LOGISTICS

Larry Langdon
Director

REAL ESTATE

Dennis Raney
Director

MEASUREMENT SYSTEMS

Bill Terry
Executive Vice President

ANALYTICAL PRODUCTS GROUP

Dieter Hoehn
Vice President and General Manager

Analytical Business Unit—Europe
Waldbronn Division
Group/U.S. Factories
Little Falls Operation
SID Operation

Product Businesses Unit
Yokogawa Analytical Systems
Marketing, Sales, Support

MEDICAL PRODUCTS GROUP

Ben Holmes
Vice President and General Manager

Asia Pacific Geographic Business Unit
Clinical Systems Business Unit

Medical Systems
Perinatal and Anesthesia Care
Cardiology
Clinical Information Systems
Marketing and Distribution Business Unit

Health Care Information Systems
Support and Supplies
Systems Integration
Massachusetts Medical Manufacturing Operation
European Geographic Business Unit
Imaging Systems Business Unit

COMPONENTS GROUP

Bill Craven
Vice President and General Manager

Avantek Inc.
Communications Components Division
Optoelectronics Division
Optical Communication Division
Malaysia Components Division
Singapore Components Division
Marketing, Sales, Support

HP PRODUCT PROCESSES

Bill Kay
Director
Corporate Engineering
Corporate Product Marketing
Corporate Manufacturing
Corporate Procurement
Corporate Education
Corporate Quality
Environmental Management

TEST AND MEASUREMENT

Ned Barnholt
Vice President

Worldwide T&M Sales and Marketing
Larry Potter
Manager

MICROWAVE AND COMMUNICATIONS GROUP

Dick Anderson
Vice President and General Manager

Kobe Instrument Division
Microwave Instruments Division
Microwave Technology Division
Queensferry Microwave Division
Santa Rosa Systems Division
Spokane Division
Stanford Park Division

ELECTRONIC INSTRUMENTS GROUP

Tom Vos
General Manager

ATE Business Unit
AOT Operation
Hachioji Semiconductor Test Division
Manufacturing Test Division
Boeblingen Instrument Division
Colorado Springs Division
Lake Stevens Instrument Division
Loveland Manufacturing Center
Lyon Instrument Systems Operation
New Jersey Division
Personal Measurements Operation
Santa Clara Division
VXI Systems Division

COMMUNICATIONS TEST BUSINESS UNIT

Byron Anderson
General Manager

Idacom Telecom Division
NECSY Telecom Operation
Network Test Division
Queensferry Telecom Division

COMPUTER PRODUCTS

Dick Hackborn
Executive Vice President

Worldwide Sales, Distribution and Support
Dick Watts
Vice President and Manager

Logistics and Distribution
North American Distribution Organization
European Distribution Operation
Asia Pacific Distribution Operation
Complementary Products Sunnyvale

PRINTING SYSTEMS GROUP

Doug Carnahan
Vice President and General Manager

Bergamo Hardcopy Operation
Boise Printer Division
Greeley Hardcopy Division
Guadalajara Printer Operation
Network Printer Division

INK-JET PRODUCTS GROUP

Rick Belluzzo
Vice President and General Manager

Barcelona Peripherals Operation
Ink-jet Components Division
San Diego Printer Division
San Diego Technical Graphics Division
Vancouver Division
Asia Peripherals Division

MASS STORAGE GROUP

Ray Smelek
Vice President and General Manager

Boise Site Operations
Computer Peripherals Bristol Division
Colorado Memory Systems
Disk Memory Division
Greeley Storage Division

PERSONAL INFORMATION PRODUCTS GROUP

Bob Frankenberg
Vice President and General Manager

Asia Pacific PC Division
California PC Division
Corvallis Division
Grenoble PC Division
PC Software Division
Roseville Networks Division

Note: Listed here are divisions and some operations—the latter typically have significant worldwide product-line responsibility and report directly to group or business unit management.

COMPUTER SYSTEMS

Wim Roelandts
Vice President

Worldwide Sales and Marketing
Franz Nawratil
Vice President and Manager

Strategic Third Parties
Global Accounts
Americas Sales/Marketing
Europe Sales/Marketing
Asia Pacific Sales/Marketing

Computer Manufacturing
Dick Love
Vice President and General Manager

Boeblingen Computer Manufacturing Operation
Boeblingen Manufacturing Operation
Colorado Computer Manufacturing Operation
Exeter Computer Manufacturing Operation
France Manufacturing Operation
Hachioji Computer Manufacturing Operation
India Manufacturing (HCL/HP)
Networked Computer Manufacturing Operation
Puerto Rico Manufacturing Operation

SYSTEMS TECHNOLOGY GROUP

Carl Snyder
General Manager

Systems Technology Division
Open Systems Software Division
Information Networks Division
Grenoble Networks Division
User Interface Technology Division

WORKSTATION SYSTEMS GROUP

Gary Eichhorn
General Manager

Advanced Systems Division
Entry Systems Division
Measurement Control Systems Division
Panacom Automation Division

SYSTEMS AND SERVERS GROUP

Rich Sevcik
General Manager

Commercial Systems Division
Cooperative Computing Systems Division
General Systems Division

INTEGRATED SYSTEMS GROUP

Mike Leavell
Vice President and General Manager

Federal Computer Operation
Integrated Systems Division
Software Business Unit
Mechanical Design Division
Network and System Management Division
Software Engineering Systems Division
Pinewood Information Systems Division
Telecommunications Systems Business Unit

HEWLETT-PACKARD COMPANY has four major business organizations. Computer activities are organized into the Computer Systems Organization, which is responsible for systems-related products (sold primarily through its direct sales force, with additional channel partners), and the Computer Products Organization, responsible for peripherals and personal computation products (sold primarily through dealer and third-party sales channels). The Test and Measurement Organization comprises a wide range of advanced electronic-based measurement products and systems. The Measurement Systems Organization includes medical, analytical and components businesses and an HP Product Processes organization. The latter provides all the HP businesses with vision, access, education and implementation assistance in product-related processes that will provide a sustainable competitive advantage.

Support activities for all products are focused in a separate Worldwide Customer Support Operations.

Field activities are organized on a geographic basis into three operations, which are responsible for finance, accounting, legal, personnel, quality, information systems, facilities, fleet and other infrastructure serving the sales and support functions. Each of the geographic operations is organized into regions. The two international operations also have a coordination responsibility for manufacturing conducted in their territory, and have their own corporate development and public affairs functions. Sales forces and manufacturing report directly to the business organizations.

BUSINESS ORGANIZATIONS

Within the four major organizations, the company's major fields of interest are organized into six product-related businesses (Computer Systems, Computer Products, Test and Measurement, Medical Products, Analytical Products and Components). Each business determines its respective market strategies, ensures that products and systems satisfy customer needs, and is responsible and accountable for activities ranging from product generation and manufacturing to sales and marketing.

Worldwide field marketing and manufacturing enable the company to apply its unique range of computation and measurement solutions to the business and technical problems of customers globally.

GROUPS, BUSINESS UNITS, DIVISIONS, OPERATIONS

Each product group represents a portfolio of related businesses and is responsible for directing and coordinating the activities of its divisions and operations.

A business unit is typically a subset of a group, concentrating on a single business. While the entities within a business unit may be geographically dispersed, they are linked by a common strategy designed to offer customers fully integrated HP solutions.

HP divisions have worldwide product-line responsibility for their respective product lines. Many divisions are vertically integrated, with their own R&D, manufacturing, marketing, personnel, controllership and quality-assurance functions. All divisions have important social and economic responsibilities in their local communities.

Operations are organizational units dedicated to particular tasks, usually in support of a product group or various divisions within a group. They generally are smaller than a division and don't have the full complement of functions, relying instead on a host division or site for some services. Operations often evolve into divisions.

FINANCE AND ADMINISTRATION

The functions within Finance and Administration provide expertise, leadership and direction in their areas of responsibility to support the company's interests with employees, shareholders, customers, government and communities.

Finance, comprising Controller, Treasury, Tax and Logistics, along with Real Estate and Corporate Development, works together with HP's businesses to achieve the company's financial and operating objectives. Information Systems provides the system capabilities to support HP's business processes. These functions oversee financial, business planning and other administrative processes, and have responsibility for managing financial assets and shared service activities that are integral to effective resource utilization.

Personnel provides leadership in the worldwide development and communication of personnel policies, processes and programs which facilitate, measure and improve the quality of management and teamwork. It provides people-related data and consulting services that contribute to business decision-making, and administers those people-related processes that can be done more cost-effectively when centralized.

The General Counsel oversees the Corporate Legal department, which has responsibility for providing advice and counsel on legal issues, legal risks and the protection of company assets in the context of the legal environment. The General Counsel is responsible to the President and CEO to assure legal matters are appropriately addressed companywide. The Corporate Affairs departments of Communications, Government Affairs and Grants address HP's many constituencies.

Internal Audit provides the Board Audit Committee, Chief Executive Officer, operational management and the external auditors with an independent review and evaluation of internal business controls established by the company to safeguard its image and assets and to ensure compliance with company standards of business conduct, applicable laws and regulations.

RESEARCH AND DEVELOPMENT

HP Laboratories is the corporate research and development organization that provides a central source of technical support for the product-development efforts of HP operating divisions. It researches or develops advanced technologies, materials, components and theoretical analyses for immediate use by divisions and for the development of new areas of business.

Research and development activities are broadly decentralized throughout the operating units. An R&D management council is chaired by the Vice President of R&D, who is also the director of HP Laboratories.

BOARD OF DIRECTORS

The Board of Directors and its chairman have ultimate responsibility for the legal and ethical conduct of the company and its officers. It is

the Board's duty to protect and advance the interests of the shareholders, to foster a continuing concern for fairness in the company's relations with employees, and to fulfill all requirements of the law with regard to the board's stewardship.

The Board counsels management on general business matters and also reviews and evaluates the performance of management. To assist in discharging these responsibilities, the Board has formed various committees to oversee the company's activities and programs in such areas as employees' benefits, compensation, financial auditing and investment.

CHIEF EXECUTIVE OFFICER

The Chief Executive Officer is responsible for the direction and long-range performance of the company, subject to the authority of the Board of Directors.

Reporting directly to the CEO are management of the four major business organizations and the geographic operations that provide infrastructure for their activities. Finance and Administration, Worldwide Customer Support Operations, Research and Development, Circuit Technology, Internal Audit and the General Counsel.

MANAGEMENT COUNCIL

Primary responsibilities of this body are to review and formulate operating policies, and to turn policy decisions into corporate action. The council, chaired by the Chief Executive Officer, views on a quarterly basis the achievement of performance expectations as reflected in the forward planning of the business organizations, and monitors their operating results.

Management Council members serve variously on five committees charged with policy-setting responsibility for operations, personnel, sales and marketing, planning and quality, and information systems.

MANAGEMENT STAFF

The Management Staff is chaired by the President and CEO, and serves as the senior business staff of the company. Its emphasis is on issues which span major organization boundaries, with a focus on insuring coherent strategy and implementation. It is involved in major resource allocation decisions, and certain decisions delegated by the Board of Directors. It comprises the heads of the four major business organizations, Finance and Administration, Geographic Operations, Worldwide Customer Support Operations, Research and Development, General Counsel/Corporate Affairs and Personnel.



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above

HP analytical equipment has helped Armour Swift-Eckrich increase its analyses from 8,000 to 48,000 a year while shortening turnaround time from three weeks to five days.

left

Dietician Connie Dickson (left) conducts a product review for a new item— Butterball Grilled Turkey Breast—with Steve Dubinsky and Janet Sweeney from the site marketing department.



In a CLASS by themselves

Even in hard years, college recruiting is important for injecting fresh ideas into HP.

By Jaia Zimmerman

It's fall. Children are back in their classrooms. College kids are back on campus, and so are many HP college recruiters.

HP recruiters visit 65 college and university campuses, and attend minority professional-organization conferences across the United States, meeting students and faculty to find students who can fill HP's needs.

With many divisions downsizing, the number of college recruits in recent years has significantly declined; however, college recruits provide HP with fresh ideas and fresh technologies, and allow HP to break out of old molds, which is important for long-term success, HP senior managers say.

"College graduates are a vital source of new ideas and energy which we should never ignore," explains Rob Mitchell, R&D project manager at the Santa Clara (California) Division, who recruits at the Massachusetts Institute of Technology.

Successful recruiting requires a continuous relationship between HP and the colleges. "It's difficult to get going again after stopping a relationship, so contacts must be kept up even in hard years," explains Kathy Burke, college relations and recruiting

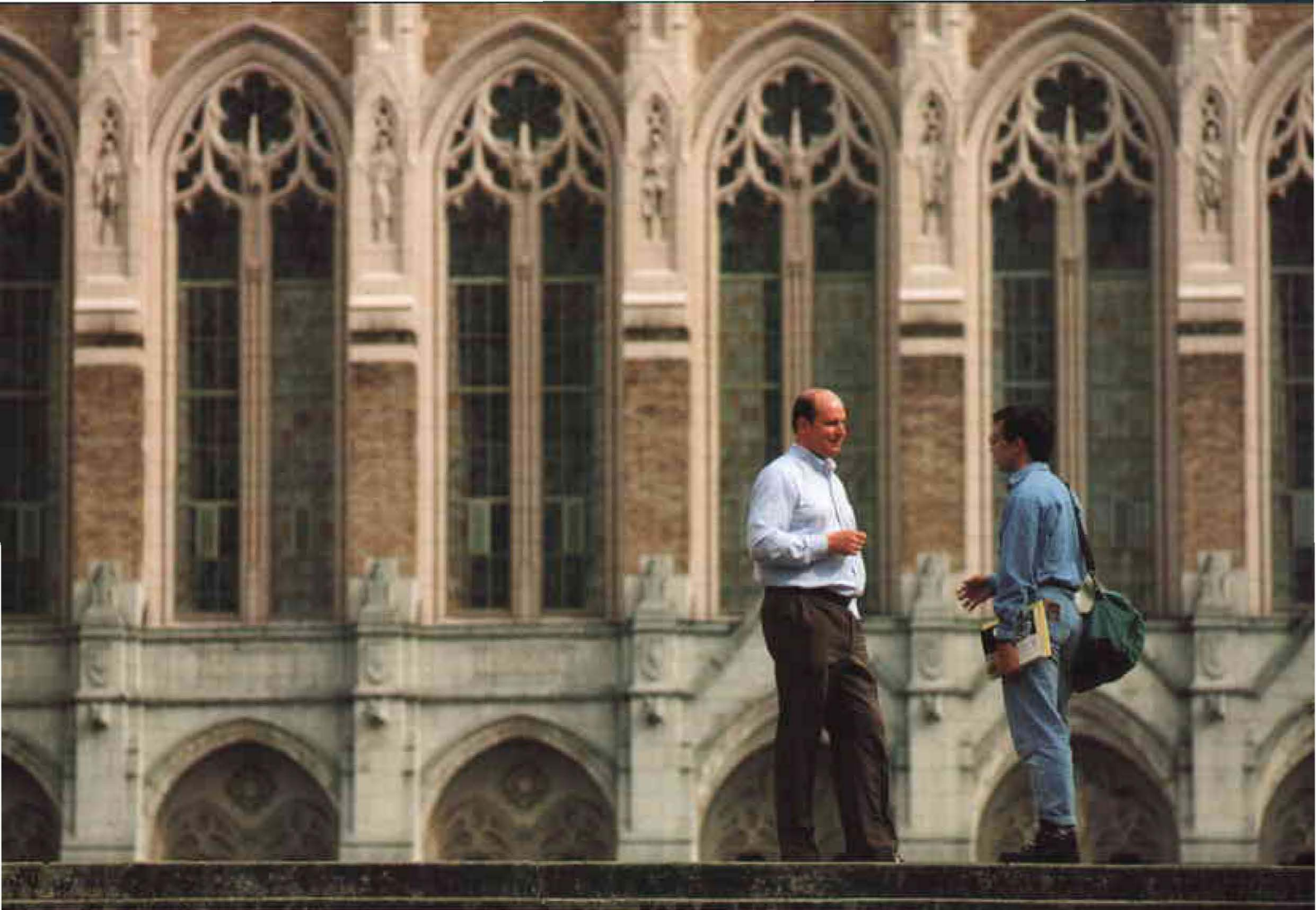
manager. "HP is committed to maintaining a steady drip from the faucet."

"Hiring is one basic fundamental that has to be done well to stay competitive," says Chris Smith, division controller at the Lake Stevens (Washington) Instrument Division, who has been recruiting for nine years. "Each hire must be a big contributor to HP."

Sometimes called the unsung heroes of HP, college recruiters volunteer their time to provide HP managers with the college talent that will enable managers to meet their current and future business needs, as well as HP's overall corporate objectives.

Once on campus, recruiters attend career fairs and hold informal meetings to introduce the company to students. Chris, recruiting at the University of Washington in Seattle, uses a proven method to pique students' interest.

"I always dress informally compared to the people from other companies," says Chris. "This attracts students, who ask why I'm dressed this way, and that starts a conversation about the HP way. The HP way is very appealing to most people, and if



Dressing casually works best for Chris Smith (left) when he recruits at the University of Washington in Seattle.

it's not, then that's probably someone we don't want to hire."

After meeting students and identifying the top applicants, recruiters hold on-campus interviews, the first step in the hiring process.

Although interviewing styles vary from recruiter to recruiter, the end goal is the same: to ensure that the candidates will contribute to HP. And it seems that the hardest part of any interview is trying to put the candidates at ease.

"One guy was so nervous that his shirt was completely soaked in the first 10 minutes," says Giovonae Anderson, a project engineer at the Santa Rosa (California) Systems Division, who recruits at the University of California at Davis. "We have to convince them that we're not Dracula; we are there to interact."

What HP is looking for in students has changed over the past few years. Grade-point average (GPA) and tech-

"We have to convince them that we're not Dracula..."

nical knowledge used to be the most important criteria. Now, the ability to communicate effectively and work in teams is just as important.

In the changing work environment, HP needs technical people who can express their ideas. "It used to be that R&D would finish a product and just throw it over the wall to manufacturing," explains Rob Mitchell. "Now we

have to work together and that means a new set of people skills is needed."

When Steve Brashear, controller for the Components Group, was recruiting at San Jose State University in California, he realized that GPA is not the only consideration when hiring students. "It used to be that 3.0 was the cutoff; anything below we wouldn't consider," Steve explains. "Then, I met this student at campus functions and found out that she was putting herself through school by working almost full-time, was a single mother and was still a full-time student. I put her down as a must hire."

The most important part of recruiting happens after the students' names have been put into the draft pool and after the recruiters have returned to

Recruiting

their HP offices. The recruiting program continues in the form of mentoring throughout the hiring process. As mentors, recruiters give candidates

The ability to communicate effectively and work in teams is as important as grade-point average.

“a hand to hold” and provide insight into what’s going on.

“The hard part of recruiting is not selecting the best students, but mentoring them through the long process,” says Chris. “But we have to do it to continue to get the best candidates.”

Interviewing and mentoring students are not the only requirements of college recruiting. HP’s relationship with the universities and organizations must be maintained through activities such as equipment donations and participation in advisory boards.

Recruiting is done voluntarily and recruiters often find it challenging to juggle the demands of recruiting with their jobs. Still, many recruiters have been with the program for more than a decade.

“Some people volunteer to be on committees; I volunteer to do recruit-



Trying to put students at ease is important, says Giovonnae Anderson, an engineer from Santa Rosa, California, who recruits at the University of California at Davis.

ing,” Steve explains. “This is another form of volunteerism.”

The job can be frustrating at times, but the benefits are many. “It’s very rewarding,” says Giovonnae. “I get to see the whole picture, from student to HP employee. It’s very satisfying to get a call from a student who says,

‘I got the job,’ and to know HP’s next product might come from him or her.” ■

(Jaia Zimmerman, a Stanford University student, was a 1992 summer intern in HP’s Corporate Communications department. —Editor)

Recruiting with an international touch

While recruiting programs outside the United States also involve visiting schools to interview students, international recruiting has some distinct characteristics.

For example, in Japan, graduation is in March and many students join companies by April 1, which means Yokogawa-Hewlett-Packard recruiters may have 20 interviews a day during this heavy hiring period.

Furthermore, YHP recruiters often contact teachers more often than the students themselves because the teachers strongly

influence students’ decisions about where to work.

In Europe, one of HP’s policies is to employ local nationals, so recruiting programs exist in each of the 19 European countries where HP has subsidiaries, as well as at U.S. schools where large numbers of European students attend.

This year, HP recruiters in Europe are participating in a European Job Fair. This gives HP access to 14,000 of the most talented European students while drastically reducing recruiting costs.

The missing piece

I have always felt that *Measure* has done an excellent job of telling people about HP and its people. However, I felt something was missing.

Reading the articles about some of our customers (September-October), I realized this was what I missed. These articles were excellent and very motivating. They had just the right level of detail and interest. I would really like to see this become a regular part of *Measure*, while keeping your primary focus on HP and its people. Well-done job; keep up the good work.

BASIL REILLY
Bristol, England

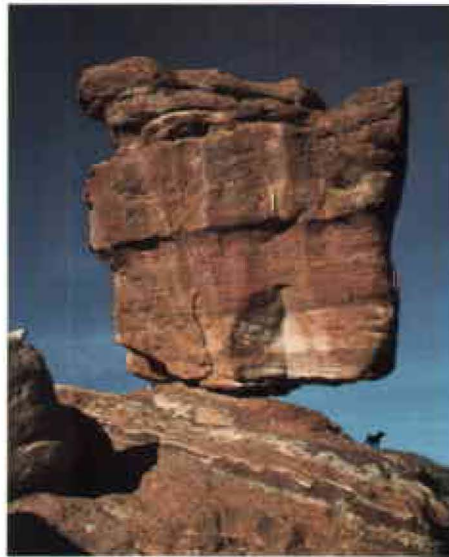
Cool as cucumbers

The "House that HP built" (July-August) looks very surrealistic when shown on the screen of a color computer monitor. From all accounts during satellite TV news reports from the Barcelona Olympics, it was surrealistic—especially, among other things, because it lacked air conditioning.

Anyone vacationing in Barcelona at this time of year must surely wonder how it came to pass that \$11 million was spent on a fancy dormitory for the Olympic athletes that was unbearably hot, forcing them to avoid it like the plague! Maybe the architect named in the *Measure* story needs to take a primer course in HVAC (heating, ventilation and air conditioning).

Being retired from HP Labs facilities engineering, I'm positive that if we had had a hand in the dormitory's design, athletes would have slept like babies and been cool as cucumbers!

JACK BENSON
Santa Clara, California



DICK HARRISON

Getting the goods on Garden of the Gods

I was inspired by the impressive photo of "Rock 'n' dog" on the back cover of the September-October issue. As the export coordinator in the Vancouver, Canada, branch, it had always been kind of a silly joke among the customs and distribution department here that there would really be a site on "Garden of the Gods" Road. We wondered where would a name like that come from.

I had to write and let you know that by seeing this photo, we finally have the answer. Now whenever we send goods to this address, that magnificent photo will come to mind. Thanks for sharing it with us.

MICKEY READ
Vancouver, British Columbia

Creating a culture

I agree wholeheartedly with Ms. Praphai Sirijaratwong's comments (July-August) regarding creating a "relationship culture" within HP. A regular feature highlighting the

operations of different departments in different country entities would be invaluable in promoting the understanding of different cultures.

This is a particularly critical area for the company because of the various types and levels of coordination required between the country entities. Realizing that there are culturally based differences in the way we do our jobs will go far in smoothing out transactions and dialogues, improving long-distance job relationships and generally making our jobs easier and more enjoyable. Very often, communication is made more difficult by assuming that the only barrier is basic, non-native linguistic ability.

I really enjoy reading *Measure*, not only because it's one of the few English publications I can get my hands on—besides tech manuals—but the human approach really makes it a pleasure to get to know more about the company I work for. Keep it coming!

ROY OSHIMA
Kawasaki City, Japan

Please send mail

Do you have comments about something you've read in *Measure*? Send us your thoughts. If we publish your letter, you'll receive a free *Measure* T-shirt (one size fits all).

Address HP Desk letters to Jay Coleman; by company mail to Jay Coleman, Building 20/BR, Palo Alto. Via regular postal service the address is *Measure*, P.O. Box 10301, Palo Alto, CA 94304-1181 USA. Please limit your letter to about 150 words, sign your name and give your location. We reserve the right to edit letters.



As the only HP customer engineer in the state of Montana, Ron Glass logs nearly 100,000 miles a year by plane and company car.

One guy in the Big Sky

By Gregg Piburn

It was an enormous world, a world of heights, and depths and distances that numbed the imagination. The mountains were loftier, the streams were swifter, the wind fiercer, the air sharper, the view vaster. Everything had been made to giant's measure; it was as if proportion had run wild.

—“The Big Sky” by A.B. Guthrie, Jr.

Boone Caudill was the protagonist of writer A.B. Guthrie's Montana of the 19th century. Boone was a loner who thrived in a land that was as beautiful as a maiden and as violent as an ambush.

Montana hasn't changed much since then. Fewer than 800,000 citizens—about five per square mile—reside in a state nearly as big as California. If every HP employee came to Montana for a company picnic (leave the guests and kids at home), the gathering immediately would become the biggest city in the state. If such an event ever occurs, be sure to bring lots of warm clothing, no matter what the season is.

The fictitious Boone Caudill of the 1840s has given way to the real Ron Glass of the 1990s. That's HP equipment in them thar hills and Ron

crisscrosses this huge state that borders Canada to make sure that HP equipment is up and running.

Like Caudill, Glass is a loner, covering the bulk of this massive state from his one-man office in Billings. It is a five-hour drive (with the pedal to the metal) to get to the eastern, northern or western boundary of his region.

"I take a stab at anything with an HP label."

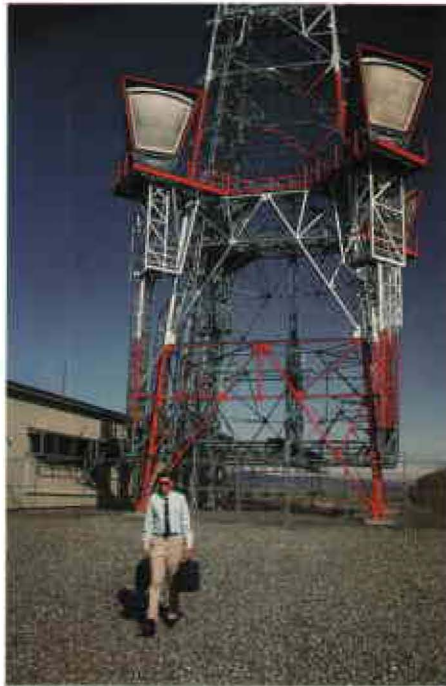
The southern border is a two-hour drive. Everything west of Anaconda and Deer Lodge, Montana—about a fifth of the state—is handled by HP's Spokane, Washington, office.

"I take a stab at anything with an HP label," says Ron, 32, who grew up in Loveland, Colorado, where his dad, Clyde, was an HP production manager in HP's printed-circuit shop.

Boone Caudill kept a rifle in the crook of his arm, never knowing what might be around the bend. Ron never knows either.

"The first three months I was up here I never worked on a single piece of equipment I had ever seen in my life," he says. His nearest HP systems-support-engineer buddies were approximately 500 miles away, in Denver, Colorado, or Spokane.

That was back in April 1988. Ron had hired on with HP in October 1981 and was told he would be up in the Big Sky Country within six months. But the oil business dried up and he ended up working as a systems-support (or customer) engineer for three years in Englewood, Colorado, and three-and-a-half years in Fort Collins, Colorado.



Ron, here leaving an AT&T site, works on everything from HP calculators to 250-user computer systems.

In 1988, State Farm Insurance Company, with seven claims offices throughout Montana, asked HP for a four-hour response time, which was impossible if the closest HP engineer was in Washington or Colorado. Ron jumped at the chance to run his own show and brought his wife, Connie, with him to Billings.

Now Ron has about 100 accounts, including a cattle-auction yard running on HP computers controlled by an HP 3000. "I walk in and see cow dung over the side of a computer and think, hey, we didn't talk about this in college," says Ron, a 1988 graduate of the Missouri Institute of Technology in Kansas City, Missouri. "At places like that they usually have one guy running the system who knows enough to be dangerous."

Ron's accounts are as varied as Montana's terrain. He works on every-

thing from HP calculators to 250-user computer systems.

In Ron's case, getting to those accounts is half the battle. A couple of springtimes (which last a day or two in Montana) ago Ron was driving a new rental car up a dirt road to the Pegasus Gold Corporation, a gold mine 40 miles south of Helena. "I was driving through mud, slush and snow when a rock literally shredded a brand new Michelin tire," Ron recalls. He walked a quarter-mile to the mine to borrow a set of coveralls so he could change the tire.

That's the thing about being a one-man shop in a damn-huge state: you have to be a jack-of-all-trades. One time Ron figured out he did about 20 different HP job functions. "I write up software and hardware contracts, manage the office, pass fire inspections, do my own typing and mailing, receive, ship and stock parts, make my own travel and lodging arrangements, find customers that want HP services and do the maintenance once they've signed on."

Systems-support engineers—whether they work out of London or Lake Stevens—have tools of the trade

"I rack up about 50,000 to 60,000 flight miles each year."

they take with them on the job: a parts kit, tools, a vacuum (for dust and cow dung in Ron's case) and a cellular phone. The standard issue for Ron includes a few more items, such as a sleeping bag, food, water, a warm

One guy

coat, mittens, a hat, tire chains, an extension cord for the engine heater, matches and a candle ("which can help a person survive in a car during a blizzard," Ron says he's been told).

Sometimes Montana's only HP employee has to take to the air to meet the demands of customers scattered throughout a region bigger than some countries. "I rack up about 50,000 to 60,000 flight miles each year," says Ron, who puts in another 30,000 on his company car.

Ron flies in everything from Delta 727s to six-passenger Cessnas. He has complete freedom to choose how he gets from destination to destination, but prefers to drive. "The few cities that have air service usually have one flight out and one in every day," he says. To rely on flying would mean

"Sometimes I have to get on HP DESK just to remind myself I work for a large company."

additional nights in motels. He averages about one or two nights weekly as it is.

A licensed pilot, Ron chooses not to use his skill for HP travel. "When I zip out of my office to go fix a computer the last thing I want on my mind is whether to fly into bad weather."

Connie Glass worked for HP in Englewood for about four years, dispatching systems-support engineers to sites of downed equipment. Connie and Ron first met via the airwaves. She is not on HP's payroll now but serves as a knowledgeable phone receptionist when Ron is gone.



Ron (right) talks with Steve Lloyd, metallurgist for the Pegasus Gold Corporation. Ron used a little ingenuity and a \$5 macrame hanger to solve a baffling problem.

"I go through the dispatcher routine with them, asking the right questions and getting them connected to the right people," Connie says. "They are always surprised to learn I'm Ron's wife."

Being at the beck and call of a hundred customers from Billings to the Canadian border from sunrise to sundown is stressful. "In January 1990 I wasn't home for my birthday, Connie's birthday, our anniversary or my parents' visit," Ron says. "And I never buy airline tickets ahead of time. I always buy them at the counter before I board."

Ron says: "You have to be self-initiating in this job, be someone who can work with little or no supervision. Sometimes I have to get on HP DESK just to remind myself I work for a large company. Some days I really wonder."

Ron carries a cellular phone but there are only five cells in the state. "Ten miles outside of Billings in any direction I'm out of touch with any kind of dispatching."

A few moons ago Ron stood inside a building at the Pegasus Gold Corporation. A huge jaw crusher outside chewed ore into powder and it felt

like a California earthquake where Ron stood. "I was getting sick and tired of driving 200 and some miles fixing disk drives," he recalls. He realized the shaking could be causing problems for the disk drive stored in a cabinet holding an HP A900 computer.

He let his mind wrestle with this problem for a spell and the next time he was in the Helena area he bought a macrame hanger at K Mart for less than \$5. It took him about 15 minutes to rig up the hanger so the disk drive would be suspended, never to bang against the sides of the cabinet again.

People like Boone Caudill and Ron Glass depend on moxie rather than manuals, tenacity rather than teamwork. They are survivors in a tall, wide and lonesome land. ■

(Gregg Piburn, a Loveland, Colorado, free-lance writer, spent February 1972 in Missoula, Montana, where the chill factor was 55 degrees (Fahrenheit) below zero much of his stay.—Editor)

Take a park home today

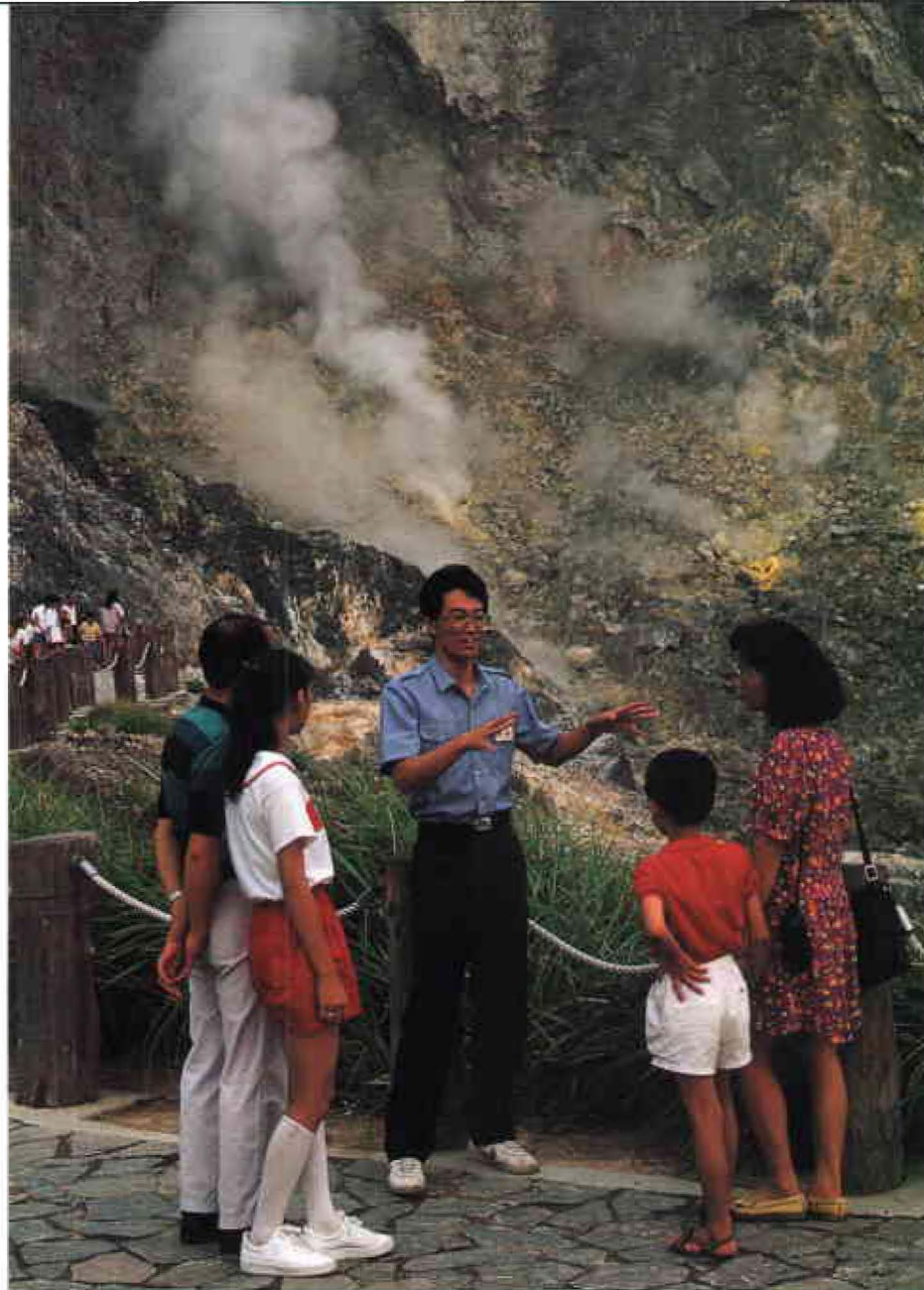
HP Taiwan (HPT) employees have taken environmental efforts into their own hands—literally.

As part of HP Taiwan's environmental program, the company has adopted Tatun Natural Park, which is in the larger Yangmingshan National Park. Less than an hour's drive from downtown Taipei, the park is a favorite recreation spot for city residents, especially during the spring when flowers are in full bloom.

Many visitors unfortunately mean much litter, so HPT employees launched a clean-up campaign and took to the trails to pick up litter left by park visitors. Solid-waste trash bins, specially designed and donated by HPT, were placed around the park to help preserve the area's natural beauty and educate visitors about recycling.

Yangmingshan is at the forefront of environmental education efforts in Taiwan, and enthusiastically welcomed HP's involvement. In addition to the clean-up campaign, HPT brought the "Adopt a Park" program back to the office in their annual HPT desk calendar.

To further assist visitors with their exploration of Yangmingshan's volcanic landscape, which includes



HP Taiwan's Herbert Cheng, a volunteer guide, leads a group of visitors through HP's adopted park, Tatun Natural Park in Taipei.

sulphur springs and bubbling fumaroles, nine HPT employees have become volunteer guides. As guides, they play a key role in helping HPT share its environmental concerns by leading various groups on excursions through the park. With the help of HPT volunteers, guests gain a greater appreciation for the park's attributes and purpose.

After establishing its relationship with Yangmingshan National Park, HPT also supported Yangmingshan's efforts to establish a sister-park relationship with the United States' oldest national park—Yellowstone National

Park. Exchange programs resulting from the sister-park relationship are flourishing.

HPT General Manager Ho-Ming Huang reaffirms HPT's commitment to the parks. "HPT's adoption of Tatun Park is a long-term commitment," he says. "We encourage all of our employees to participate to the fullest, to work together with Yangmingshan administrators to further environmental education and to heighten our society's environmental awareness." ■

—Jaia Zimmerman

HP's new president and CEO talks about his HP career and opportunities ahead.

I'm fortunate I've had an opportunity to work in several different HP organizations, so I already know many of you well. However, I realize that many of you are also asking, "Who is Lew Platt?" and "What are his thoughts about the future of HP?" Therefore, I thought I'd devote my first letter to an introduction of myself and some of my thoughts about the company.

I was born and grew up in a small town in upstate New York. Upon graduation from a rural high school I went to Cornell University where I earned a bachelor's degree in mechanical engineering. I was interested in business management so I decided to enroll immediately in the Wharton School at the University of Pennsylvania.

My roommate at Wharton was an electrical engineer who was very interested in getting a job at Hewlett-Packard. Frankly, I didn't know much about HP, but my roommate's enthusiasm rubbed off on me and I decided to interview.

I received many good job offers, including one from HP, and had a difficult time deciding where to go to work. Fortunately, during the interview process I was very impressed with the people I had met at HP and I was impressed by the growth prospects and opportunities which were offered by this relatively small company. I started work at the Sanborn Division in Waltham, Massachusetts, after receiving my MBA in 1966.



HP President and CEO Lew Platt (second from left) talks with value-added resellers from The Netherlands during their recent incentive-trip visit to the United States.

During the early years of my career I worked in both marketing and manufacturing. I had a wide variety of exciting assignments and, although I didn't appreciate it at the time, I was learning a lot about the different functions of the division.

In 1972, Dean Morton, the division manager at the time, asked me if I would work for him as the engineering manager. I did this until 1975 when Dean became the general manager of the Medical Group. Dean asked me if I would take over leadership of the Waltham Division, a post I held until 1980.

I had an opportunity to move to Palo Alto in 1980 to become the general manager of the Analytical Group. This was a particularly exciting time for me because it meant transferring to a new business, moving to Palo Alto—where I had much more frequent contact with HP's top management—and taking on my first group-level general-management job.

The four-and-a-half years I spent in the Analytical Group were probably some of the most rewarding during my HP career. We built a very fine team and established ourselves as the

leading analytical-instrument company in the world.

In mid-1984 my life changed forever when I entered HP's computer business. I served in a variety of management assignments in various computer businesses. This led to my appointment as the general manager of the Computer Systems Organization in October 1990.

On a personal note, my wife, Joan, is a former employee of the Waltham Division. We were married a couple of years after the death of my first wife, put together our two families and ended up with four teenage girls. Raising four girls whose age span is less than five years turned out to be as big a challenge as any I've ever faced at HP. Three are now in college and one is a senior in high school. I will have four in college next year.

I feel very fortunate to be given the opportunity to lead a great company like Hewlett-Packard. I'd like to especially thank John Young and Dean Morton for their outstanding leadership of the company and for supporting me during the last decade. HP is a great company and it's a

unique company. Dave Packard and Bill Hewlett built the company on principles which would ensure its greatness and give it a unique character. The corporate objectives and the "HP way" are just as applicable today as they were when Dave and Bill founded the company 53 years ago. John and Dean had the wisdom and skill to build an even greater company while preserving its uniqueness.

They also left me with an outstanding management team that has the knowledge, experience and enthusiasm to lengthen the wonderful track record of HP.

I'm confident, with your help, that we can maintain the uniqueness of HP while strengthening its position as one of the world's most important and most respected technology companies. I look forward to meeting many of you in the months ahead as I travel around the company and learn more about your businesses.

I expect the rate of technological change will continue to accelerate during this decade, and that will present us with more opportunities to contribute and grow than we've had in HP's entire history. I'm confident we'll be able to capitalize on these opportunities, and I look forward to working with you to do just that.



Up close and personal with Lew

In the March-April 1991 issue, *Measure* profiled Lew Platt, then head of the newly created Computer Systems Organization (CSO). Here are a few excerpts from Lew and some of his colleagues that brought additional insights into Lew's background, style and character.

If you'd like a copy of the complete story, send an HP Desk message to Tricia Neal Chan, *Measure* circulation chief, or call the *Measure* office at (415) 857-6571.

"He knew that a clear purpose and direction for the organization was just the ticket. That a strong leader was what was needed. And he responded to that extremely well.

"(Lew did it) simply and provided clarity in a down-to-earth and straightforward way. That's the kind of thinking that Lew brings to an assignment."

Paul Goldman, general manager of the Intensive Care Business Unit in Waltham, Massachusetts, referring to Lew's December 1992 teleconference announcing CSO's mission, objectives and strategies

"As I look back I realize, with hindsight, how great those years were although at the time I felt it was hard to be as successful as we wanted to be.

"You never had to worry about downsizing. If you made a mistake by hiring too many people, you just waited a month or two and the

business grew enough to accommodate them."

Lew Platt, commenting on his days as Waltham Division general manager—a period of great growth

"When Lew started managing Analytical, it was small and didn't have a wonderful image within HP. He changed that dramatically; that was reflected in the fact that Lew was the first from the Analytical Products Group to be named company V.P. It was recognition of the great job he had done."

Dieter Hoehn, V.P. and general manager of the Analytical Products Group

"I was amazed at the strength that Lew showed. He had a complex job in California, two young girls to raise by himself and, at the same time, he was doing a tremendous amount of community work.

"He managed to cope with all these things. He balanced his personal grief with all the demands of the outside world."

Dieter Hoehn, commenting on the difficult time in Lew's life after the death of his first wife

"I come from a family which feels very strongly about serving in the community. My mom worked in the PTA (Parents-Teachers Association) and my dad was active in the Boy Scouts and the Red Cross while I was growing up. I think you have to help out."

Lew Platt on finding time for community work

News from around the HP world



As Hurricane Andrew swept across southern Florida in late August, it shredded homes like this one in Cutler Ridge.



The force of the storm easily upended cars and trees, as shown in this photo by Bill Panick of HP Fort Lauderdale.

Coping after Hurricane Andrew

After Hurricane Andrew had stormed out of South Florida and Louisiana in late August, residents coped with damage done by the costliest natural disaster in U.S. history.

Latin America Region headquarters in Miami closed for a week so people could deal with their losses—six homes destroyed, five others severely damaged. Worried about co-workers, Miami employees checked on everyone and gave the help most needed—from diapers to roof repair. They set up their own fund for the victims, to which HP people elsewhere gave more than \$5,500.

Neighborly HP help came from field offices in Florida, especially Fort Lauderdale, from the South and across the U.S. Several Fort Lauderdale employees living in Miami also had damage to their homes. The

company donated \$10,000 to American Red Cross relief efforts in the area.

HP equipment also had a critical role to play. After the storm, Barbara Emery, Medical sales rep in Fort Lauderdale, talked her way past barricades to get to Homestead Air Force Base. Its HP-equipped hospital was gone, and the makeshift medical unit urgently

needed defibrillators, fetal monitors and other gear.

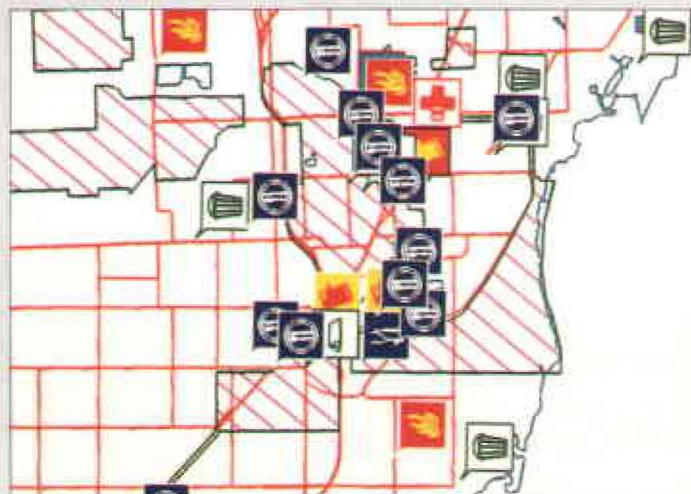
Barbara anxiously appealed to group headquarters, which at once approved overnight shipment of loaned equipment valued at \$60,000 and donation of \$5,000 in supplies.

When Barbara arrived with equipment, it was put right on patients, including many women having babies.

Equally useful was an HP Apollo Model 750 workstation with special software lent to the Federal Emergency Management Administration (FEMA).

With many streets and signs gone, helicopters needed longitude and latitude coordinates to know where to drop supplies. Digital Matrix Services, Inc., offered FEMA brand-new digital maps of South Florida, produced with its geographical information system InFoCAD running on an HP Apollo 710 workstation.

When Fort Lauderdale sales rep Ron Kessinger conveyed FEMA's need for added power to include more data on the map, HP entities promptly supplied an HP 750, three X terminals, an HP PaintJet XL300 and HP ScanJet IIC. The equipment is charting the daunting efforts to help the area recover from the storm.



HP equipment is helping produce a master chart of relief operations in south Florida, showing sites of tent cities, kitchens, Red Cross centers, trash and burn locations, etc.



Jim Vanides assists his daughter, Joy (center), and classmate, Caroline Snyder, during an "Engineering with Legos" class.

Using toys to teach

If you peek into certain classrooms in the San Francisco Bay Area, you may see a puzzling sight—an engineer and some kids playing with Legos building blocks. It's part of HP's efforts to support hands-on science in K-12 classrooms.

Using Legos kits, HP engineers go into the classroom and help kids design and build motors, pulleys, gears, wheels and more. It's a fun way to teach kids about engineering by bridging the gap between textbook science and real-life concepts that are the basis of many machines and

appliances that the kids see and use every day.

Jim Vanides, an engineer at the SID Operation in Palo Alto, California, enjoys volunteering in the program. "It's great to see kids who thought they could never design anything build something that works."

HP hopes this exposure to scientific discovery will encourage kids to consider a career in science or engineering. The "Engineering with Legos" program is happening in several locations around the United States.

NEW TEAM AT TOP

Changes in the corporate organization chart (inside this issue) reflecting President and CEO **Low Platt's** top management team:

The Test and Measurement Organization becomes a fourth major business organization reporting directly to the CEO.

Bob Wayman has been promoted to Executive Vice President, Finance and Administration. He adds the renamed Corporate Affairs under V.P. **Jack Brigham**, and Personnel under **Pete Peterson**, who has been elected a vice president.

As General Counsel and head of Legal, Brigham has a second reporting relationship direct to Platt.

Alan Bickell is promoted to Senior V.P. and heads a new Geographic Operations, with all three field operations and the Finance and Remarketing Division reporting to him.

HP Product Processes under Director **Bill Kay** moves into the Measurement Systems Organization.

OTHER CHART CHANGES

In the Software Business Unit, the former Colorado Networks Division and System Management Division have been combined into a new Network and System Management Division in Fort Collins, Colorado. General manager is **Robert Hoog**.

The Electronic Instruments Group has formed a new Personal Measurements Operation in Colorado under **Mike Gasparian** as G.M. to look at the entire range of entry-level tools and supporting services for technical professionals.

New name for the former Cooperative Object Computing Division is the PC Software Division.

TI DEAL CLOSES

HP's acquisition of the worldwide Computer Systems & Services business of Texas Instruments, pending since June, became official in October 1992, when all necessary approvals were received. HP will sell and support worldwide TI's 1500 Computer Family, which TI will continue to manufacture.

Fun and games, Singapore style

Family Day at HP Singapore always includes singing, dancing and team sports. And in 1992, as part of Singapore's version of United Way, HP employees shared the day with some folks from nearby homes for people with disabilities.

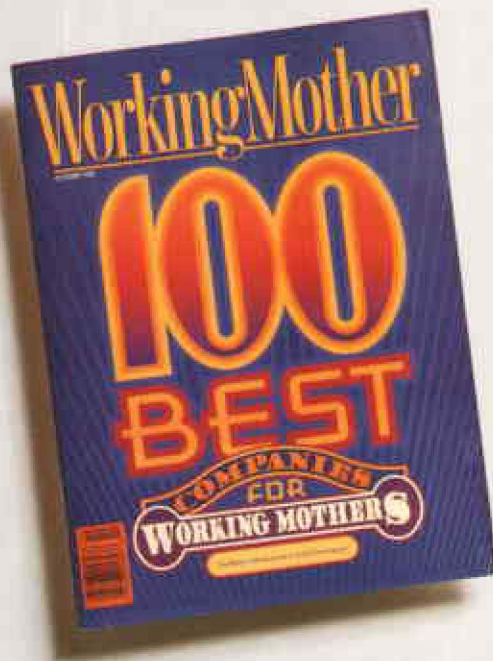
Sixty people were invited to participate in the fun, food and games, playing along with HP employees

who also volunteered to be caretakers for the day.

At the end of the festivities, each of the three homes participating received a check from HP for \$10,000. Even more than money, employees felt they gave and received something very special by sharing the day with their new friends.



HP Singapore's Family Day festivities included a water-bomb game with residents of homes for people with disabilities.



Mom's always right

Who are the best companies to work for if you're a working mother? *Working Mother* magazine recently announced the results of its seventh-annual survey and cited HP as one of the top 100 companies.

The October issue ranked companies on the basis of pay compared with the competition, opportunities for women to advance, support for child-care and "family-friendly" benefits. The survey covered only the U.S. employees of companies with operations in other countries as well.

Working Mother noted that HP provides up to 24 weeks' leave for childbirth, adoption aid up to \$2,500,

flextime, tuition reimbursement, and elder-care resource and referral, among other benefits.

The magazine also cited HP's year-long development program aimed at advancing high-potential women and minorities into management ranks. HP's annual Technical Women's Conference also drew praise.

The top 10 companies were Aetna Life & Casualty, Boston's Beth Israel Hospital, Corning, Fel-Pro, IBM, Johnson & Johnson, Merck, Morrison & Foerster, St. Paul Companies and SAS Institute.

Quoteworthy

“Whatever it is we do today, we have to figure out how to do it for 25 percent less cost next year...”

Dick Watts, V.P. and manager of Worldwide Sales, Distribution and Support for the Computer Products Organization, in the "HP Directions for the '90s" videotape.



Marv Patterson dedicated his recently published book, *Accelerating Innovation*, to HP engineers worldwide.

Product development by the book

If you're going to write a book on how to develop and deliver products to market faster, you'd better practice what you preach.

Marv Patterson, HP director of Corporate Engineering, did exactly that on his first book, *Accelerating Innovation*, which reached bookstores throughout the United States in October.

First, Marv and collaborator Sam Lightman wrote the book in a brisk five months.

Then his publisher, Van Nostrand Reinhold, promised a two-month turnaround from receipt of the manuscript to first books sitting on shelves in bookstores. That's five months faster than a competing publisher.

"One reason for writing this book was to reach HP people," Marv explains. "A book is a good way to convey a message to busy people. They can consider one idea at a time at their leisure."

Sprinkled heavily with HP examples and anecdotes—and dedicated to HP engineers worldwide—Marv's book shows that proven quality concepts from manufacturing work equally well in product development.

Says John Young, recently retired HP president and CEO, "For those who want to make time an ally instead of an enemy, this book is an invaluable guide to the innovation process..."

GETTING TOGETHER

HP signed an agreement in September to acquire Colorado Memory Systems Inc. of Loveland, Colorado, a maker of PC tape backup systems. The acquisition became official in October.

Two new joint ventures were announced in Asia Pacific. HP Malaysia sales has a minority position in Sapura Systems Malaysia, formed with Sapura Holdings. HP Taiwan is the largest investor of three partners in Open Systems Software Inc., Taiwan's first software factory. G.M. is **Dennis Ho**.

NEW HATS

In Computer Manufacturing, the former Böblingen (Germany) Manufacturing Operation has been split into two entities: a new operation by the same name under **Wolf Michel**, and the Böblingen Computer Manufacturing Operation under **Klaus-Dieter Laidig**...**Jean-Pierre Catte** to operations manager, Exeter Computer Manufacturing Operation.

In the European Multi-country Region, **Yves Couillard** to G.M., Inter-

national Sales Branch, spanning 75 countries. Former East Central Europe countries will now report directly to **Peter Kohl**, G.M., South East Sales Area.

Bernard Guidon to G.M., CSO Marketing Europe. **John Kick** to G.M., Pinewood (U.K.) Information Systems Division.

Dick Warmington to personnel manager, Intercontinental Operations...**John Toppel** to G.M., Samsung Hewlett-Packard in Korea...**Mike Forster** to G.M., North American Distribution Organization.

WORK-FORCE REDUCTION

As HP focuses on improving profitability, the company on October 8 announced it will offer a Voluntary Severance Incentive program, expecting that 2,700 employees will sign up, 2,000 of them in the United States. Participants will leave the company by January 15, 1993.

A layoff of 220 former employees of Avantek Inc., acquired by HP in 1991, at two California sites was announced July 30. The reduction in force was due to an overlap in functions.



Northern (Colorado) exposure

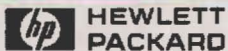
Seeing a herd of elk meander single file across the highway took Patty Towler, a financial analyst from Exeter Computer Manufac-

turing Operation, by surprise when she was on a business trip outside Estes Park near the Fort Collins, Colorado, site.

At first, she thought the animals were being herded across the road, but this wild bunch was just looking for an afternoon snack. And

you know what they say about "the grass is always greener..."

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