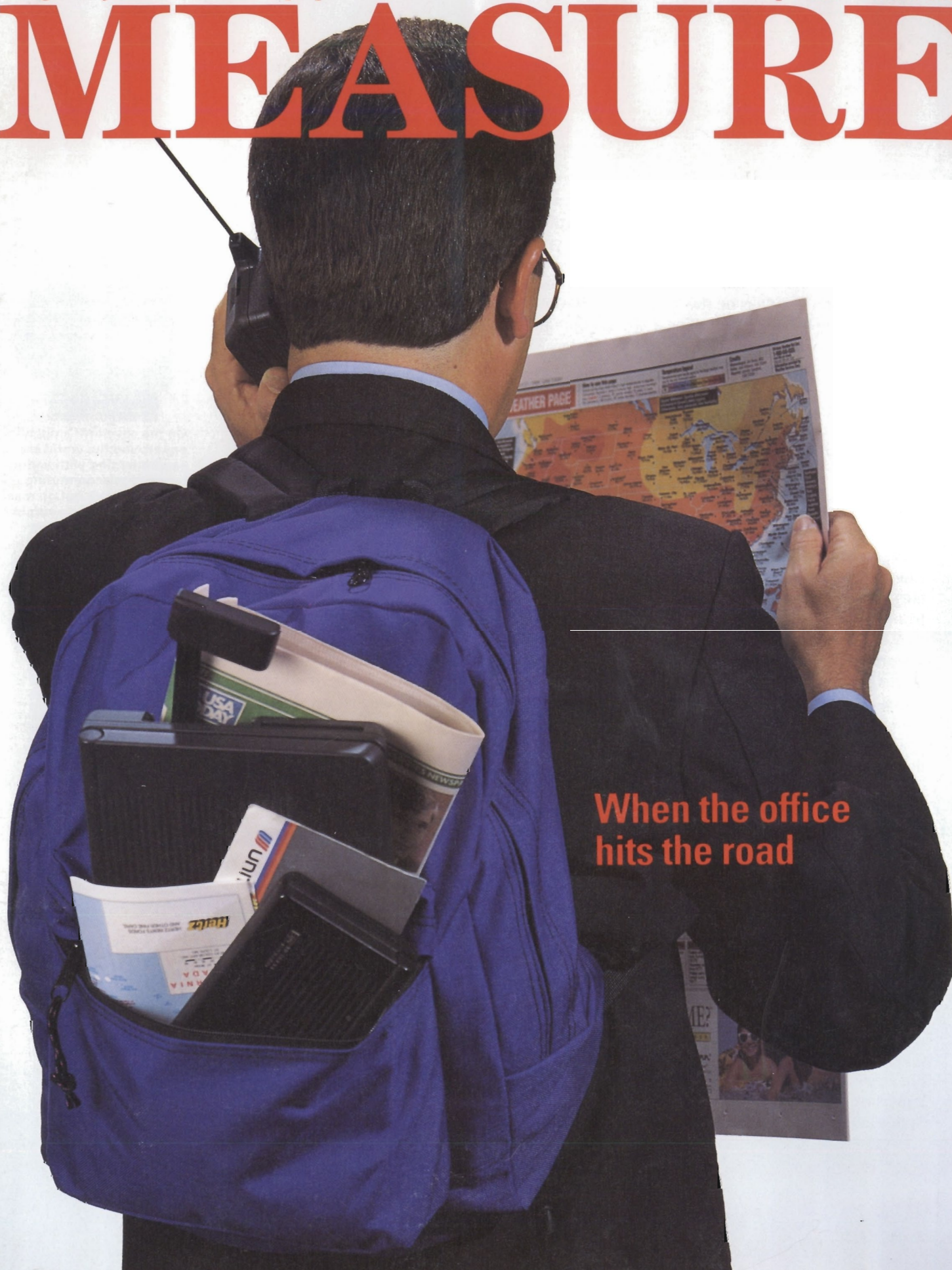


A magazine for Hewlett-Packard people

September-October 1994

MEASURE



When the office
hits the road

The old joke goes, “If you laid all the economists end-to-end, they still wouldn’t reach a conclusion.”

I thought about that line recently when I spent a few days on the Texas-Mexico border researching a *MEASURE* story on how HP’s Test and Measurement Organization sells its products on both sides of the border (see page 9).

Now that the North American Free Trade Agreement (NAFTA) has been in place for a year, what are we to conclude?

It’s too soon to label NAFTA a success or a failure. I think most economists would reach that conclusion. But from an HP standpoint, I think it’s clear that the company will benefit from the new “openness.”

NAFTA will enhance HP’s ability to export to and operate in Mexico. It’s essential for HP to grow its international business, and to create jobs in the United States and abroad.

Economics aside, I learned a great deal during my days on the border. I got to see several *maquiladoras*—twin plants—firsthand and talk to the people who work there.

I didn’t see sweatshops or run-down factories that spew pollution and take advantage of workers. Indeed, the plants were modern and the people were happy. If you question how hard-working Mexican people are, just look at the staggering number of modern products they produce.

Admittedly, I toured only high tech telecommunications factories. And I’m sure they have their share of problems, just like plants in the United States and Canada do. But their prod-

ucts are modern, high-quality and affordable—all features that consumers demand today.

As one plant manager said, “What do *maquiladoras* mean to me? They mean that I have a job.”

HP, of course, has chosen not to operate *maquiladora* plants in Mexico. The company’s only manufacturing site is in Guadalajara. But HP certainly benefits from its sales to *maquiladoras*. And the people who work there benefit financially, too.

The *maquiladoras* received a lot of attention the past few years as the debates over NAFTA raged. It’s interesting to note, however, that *maquiladoras* have been around for a quarter-century—long before NAFTA and Ross Perot were household names. They’ve been the No. 2 revenue generator for Mexico—after oil—for nearly three decades.

Have NAFTA and the influx of U.S. and other manufacturing plants revamped the Mexican economy completely? Hardly. I vividly remember seeing one dilapidated shack not far from a *maquiladora* site and thinking, “I’ll bet that no one has lived in that place for years.” Then I saw what must have been a 5-year-old girl come out of her home. Yes, I could have witnessed that scene in countries around the world, including the United States. Somehow, the dilapidated shack just a few yards from the high-tech telecommunications factory captured the irony of late 20th century Mexico.

Mexico still has a long way to go socially and economically. I hope HP is there to help during the journey.

Jay Coleman



On the cover: HP employees around the world are experimenting with various forms of telecommuting. Does this work option make sense for you and your job? Photo by Douglas Peck.



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When the office isn't at the office

By Jean Burke Hoppe

For telecommuters, work is not somewhere you go, but something you do.

They are changing the workplace by doing their jobs from their homes, airports, hotel rooms and satellite work centers. They are comfortable residents of cyberspace—they have modems and know how to use them. That they are not sitting in an HP office building is invisible to HP customers. Nearly all of them claim their productivity has skyrocketed since they started telecommuting.

Meet the typical HP telecommuter:

- Ulrike Roehrenbeck, technical translator for the Böblingen Medical Division, visits her HP office once or twice a week. The rest of the time she's in her basement office in her home in Moetzingen, Germany, a small village on the border of the Black Forest.

Armed with her PC, phone, medical reference books and large blocks of quiet time, her productivity—measured by pages translated per day—has increased 35 percent.

- Katie Trippet became the inside rep for her Fullerton, California, sales team when she moved to Lake Tahoe, California, this year (because her husband purchased a sports recreation business there).

She operates as the central point of information and support for her three team members, who are all on the road working with customers. She travels to the Fullerton office once a month for meetings with employees, customers and resellers, as well as to the Mountain View, California, Telesales Center.

It's not unusual for Katie to spend 90 percent of her time on the telephone—"an intense adjustment" from her days in the field. Her switch to the inside sales rep position, which allows her to work from her home, meant HP could keep a valued employee with 12 years of experience.

- Randi Swisley, project manager in the Information Networks Division's Systems Interconnect Lab in Roseville, California, has worked at home one day a week for





Ulrike Roehrenbeck's productivity has increased 35 percent since she began telecommuting from her home office in Moetzingen, Germany.

about five years. She says she can get three times as much done that day as she can in the office.

To ward off visits from her young children, Randi takes everything she'll need for the day to her upstairs office, including food and the coffeemaker. "If I come downstairs and they see me, it's all over."

She has set up most of her staff with home workstations and an ISDN connection so they can work from home, too. "My expectations are higher if people work at home," she says. "They should be getting more done. If hearing that makes you cringe, then you've never telecommuted."

- Jon Wagner has two jobs and two bosses. He is human resources development manager for HP Canada and management development manager for the Americas field organization. He considers his office to be whatever airplane he's on, hotel room he's in

or empty HP cubicle he can borrow because he's on the road about 35 percent of the time.

Because Jon's portable computer serves so often as his desk, that's where he keeps his family photo. In his education job, he's grappling with the issues that surround managing a dispersed and/or mobile work force.

The point is, of course, that there is not really a typical HP telecommuter. While the field is further along the path in terms of numbers, this relatively new work option is by no means limited to the sales force. HP people the world over are taking the office home and more will be doing so in the future.

Link Resources, a New York-based market research firm, says there are 7 million telecommuters in the United States today, and that number could reach 25 million by the year 2000.

A number of factors are driving the increase in telecommuting, says Jerry Cashman, alternative work options manager in Corporate Compensation. Among them:

- the never-ending search for the most efficient use of resources;
- laws aimed at reducing emissions and improving air quality;
- work/life balance and diversity issues; and
- the recent explosion of technology, which has created many effective remote communication tools.

HP approved policies and guidelines for U.S. telecommuting in February 1994, though there has been a lot of informal activity for years.

"Nothing is happening overnight like it is at some other companies where they're closing offices and giving people a computer and calling card and telling them to go do their jobs," Jerry says. "HP is taking a more gradual approach saying, 'Here's a



To escape the telephone—where she spends 90 percent of her time—Katie Trippet takes a lunchtime stroll near her Lake Tahoe home.

work option that might make sense for some of your people.’ ”

The longest-standing telecommunication experiments at HP in the United States are at the Lake Stevens (Washington) Instrument Division; U.S. Field Operations (USFO) and the Roseville, California, site. Others experimenting with telecommuting include the Boise, Idaho, site; Corvallis, Oregon; HP Labs; the North American Response Center and the field sales people in the Computer Systems Organization; the Test and Measurement Organization and the Medical Products Group. HP Australasia, the United Kingdom, Canada and Germany also have guidelines for telecommuting.

Neil Norris, remote support manager for USFO, has developed a comprehensive resource guide for the approximately 500 sales and support people who are working outside of the traditional HP sales office. USFO

Do you have what it takes?

Not everyone is cut out for telecommuting. Think over these issues before taking the leap.

- Do you have full management support? Do you have a trusting and open relationship with your manager?
- Do you work well independently?
- Are you self-motivated and responsible?
- Are you organized and results-oriented?
- Is your job well-suited to telecommuting? Does it rely heavily on use of a phone, research tools, PCs, modems, fax machines and databases?
- Are you extremely extroverted? Isolation from co-workers cuts into your informal information access. Would you be willing to overcome

this by using other communication techniques more often: planned telephone contacts, visits to the office, lunch meetings?

- How important is visibility in the organization to you? It could be reduced unless you make a real effort to meet new employees, attend office meetings and company events, and take advantage of all informal communication opportunities.
- Is there room in your house? Are you willing to reduce the living space in your home?
- Will other household members be willing to work around your schedule? Will you be able to handle business calls professionally? Is it noisy?

office without admin support or from a multi-tenant office center.

While the guide offers suggestions on various types of equipment, each business defines specific platforms for home-office use. Neil thinks that all this might be a moot point anyway when the wireless environment is a reality. "Eventually, your office will be wherever you have to be. You'll just flip open your PC. That's where things are headed and we're groping along to that future."

Meanwhile, people are asking for flexibility in their work and personal lives. HP is trying to respond. Managers have worked out informal alternatives with employees for years, says Julie England, work/life manager for the Boise site.

business needs and promote better work/life balance," Julie says.

Telecommuting is part of a formal work-options program Boise is rolling out this fall that also offers employees a compressed work week, part-time hours and more flexibility in their work schedules.

feel lost in cyberspace? It's something that concerns Jon Wagner.

In studying how best to manage employees who work out of different offices, or in geographically dispersed locations or from home, Jon has identified four critical considerations:

What's in it for you? For HP?

A flexible office situation almost always improves productivity. Other typical benefits:

Hewlett-Packard

- Improved employee satisfaction
- Compliance with clean-air laws
- Reduced office space requirements
- Improved employee retention

Employee

- Increased job satisfaction
- Reduced commute time and more time at home
- Improved flexibility to coordinate personal and work schedules
- Reduced levels of stress

Missing Page

Telecommute: At HP, it's one alternative work arrangement available to employees. Must have manager approval. Job is performed—either partially or completely—from a site other than a primary business location (such as home or a satellite work center). Typically not a full-time work-week arrangement.

The virtual office: How some envision the future. In the extreme, it means the demise of private offices and equipping employees with mobile computing and communication devices that allow them to conduct business from wherever they are—a traffic jam, a restaurant, a home office or the beach.

The condo concept: Typical HP office configuration with lots of

people are working at home and cube is often vacant. Opportunity for savings by capturing the vacancy and putting it to use.

The village concept: Features smaller and fewer individual work spaces and increased team space. Features shared equipment.

Hotelling: Features the removal of all individually “owned” space and replaces it with flexible shared and private work space. A large number of mobile workers or telecommuters can access these smaller work spaces by reserving them in advance. The Network Printer Division finance group in Boise is using the village concept and plans to pilot hotelling, says Lyle Hurst, who was division controller when the experiments began.

surface, chair, bookcases and filing cabinet.

4. Personal computer.
5. Fax machine.
6. Printer.
7. Modem for network access to the Internet, databases and HP's e-mail system.
8. Voice mail.
9. Business-devoted phone service. Two lines are ideal, one for voice and one for data.
10. Company-recommended software tools, which vary according to job needs.



JOHN DYER/L.P.

Henry Luna, a field engineer in HP's Test and Measurement Organization, stops at a downtown Matamoros, Mexico, telephone to confirm his next customer appointment.

HP's booming border business

By Jay Coleman

A small team of HP test-and-measurement engineers is posting impressive results along the 3,000-mile United States-Mexico border.

ALONG THE TEXAS-MEXICO BORDER—Henry Luna steers the rental car carefully around the suitcase-sized potholes in the streets of Matamoros, Mexico.

As one of only two Hewlett-Packard Test and Measurement Organization (TMO) field engineers who works the entire 3,000-mile U.S.-Mexico border, Henry knows his way around Mexico—literally and figuratively.

“One of my goals is to keep our *maquiladora* customers in the 20th century,” Henry says. The statement has an ironic twist as Henry eases the car around a man riding a donkey-powered cart.

That scene—centuries-old technology coming face-to-face with the ultramodern 1990s—captures the

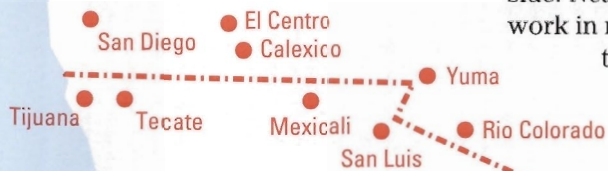
essence of the high-tech industry in Mexico today. For while the *maquiladoras*—the factories that line the Mexican border—produce some of the most advanced electronic and telecommunications equipment manufactured anywhere in the world, the country continues to face huge economic challenges.

Henry leads a small team that is focused—obsessed, really—with providing excellent service to HP's *maquiladora* customers. How's it working? Henry's team surpassed its year-long sales quota for TMO products halfway through the year.

The focus—U.S.-based TMO field engineers selling to *maquiladoras* on both sides of the border—is unique

Border

for HP. Henry's three-year plan is to develop a strong customer base and excellent customer service by October 1995, then turn the sales



region over to the HP Mexico team.

"The *maquiladoras* represent a great opportunity for HP," Henry says. "Our only limitations are the vast territory and the large number of potential customers. Our focus is to understand their individual needs and make sure we position HP to meet them."

Henry is ideally suited for the job. He's lived all of his life in El Paso, Texas. His parents and grandparents were born in Mexico, and English was a second language while he was growing up.

His 3,000-mile territory stretches from Brownsville, Texas, and Matamoros on the Mexican side to San Diego, California, and Tijuana in Mexico, and as far south as Chihuahua, Mexico—about 250 miles from El Paso and Juarez. Henry's data base includes more than 150 companies and more than 800 engineering and quality-assurance managers in *maquiladora* facilities.

Maquiladoras—or "twin plants"—are foreign-owned factories that buy unfinished merchandise from manufacturing plants around the world, employ Mexican workers to assemble

products and sell finished goods through international markets.

Typically, warehouses are located on the U.S. side of the border and manufacturing plants on the Mexican side. Nearly 500,000 employees work in more than 2,000 *maquilas* throughout Mexico.

While Henry spends the majority of his time dealing with customers, he also must devote considerable time to educating HP people on border issues.

"The twin-plant arrangement confuses some people who think they're dealing with an international order because their product or service ultimately ends up in Mexico," Henry explains. "The fact is that we are selling our products to addresses in the United States.

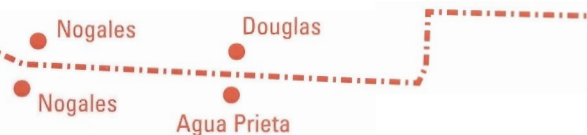
"It's confusing, frustrating and costly to our customers when equipment or paperwork gets delayed because some HP people aren't clear on the border issues."

Mark Balog, materials manager for Deltronicos de Matamoros, a subsidiary of Delco Electronics Corporation, says the border has to "disappear" for all of its suppliers to provide better service to customers in Mexico.

"It used to be that big companies ate the small ones," he says, "but in the future, fast companies will eat the slow ones. Cycle time will be the key."

The Deltronicos plant manufactures 85 percent of all General Motors car radios. The challenge for suppliers, Mark says, is to provide the best price, quality and service—"100 percent in the box."

"HP products tend to be 'pricier' than some competitors," Mark adds, "but the equipment is of excellent quality and Henry gives us great service. We have high expectations of our vendors and HP does a pretty good job of meeting those expectations."



The situation is similar in Reynosa, Mexico, at Antespec, a subsidiary of Antenna Specialties Company. The 230 employees there manufacture 3,000 antennas a day—all checked by HP analyzers—for mobile and other telephones.

"HP does a very good job...absolutely," says Alberto Espinosa, quality-control manager. "The things we need from HP are more technical assistance in Spanish, some hands-on training and a calibration lab based in Mexico."

Alberto, who returned to Reynosa to work after earning an electrical-engineering degree and a master's degree in computer science from the technical university in Monterrey, Mexico, says that without *maquiladoras*, "I don't have a job."

"The *maquiladoras* represent a lot of work for Mexican people. In turn,

we produce advanced telecommunications equipment for markets worldwide. *Maquiladoras* are a vital part of Mexico's economy."

Indeed, the 25-year history of *maquiladoras* has meant several cultural changes in Mexico, Henry says. Lunch used to be a two-hour affair, from 1:30 or 2 p.m. on. Now lunch usually is noon to 1 p.m. And production workers—mostly women working outside the home for the first time—earn the same or more than

their husbands.

At Edemsa-Jerrold Communications, the cable TV



JOHN DYER/L.P.

HP spectrum analyzers test TV-top signal converters at Edemsa-Jerrold Communications, where Ramiro Chavez Torres, test-equipment engineering manager, talks with Henry.

"The TV market is a very competitive arena," says Carlos Aguirre, test-equipment manager. "I became a lover of HP equipment when I first used it in college. But sometimes the HP equipment has Rolls Royce capabilities when we really only need a Volkswagen. My customers say the same

of more than 3,000 TMO products is ample ammunition to open doors in a mushrooming industry.

"HP—in the U.S. and Mexico—wins along with our customers because they can produce the high-quality products that we as consumers want," he says. "The *maquiladoras* win, too, by continuing to employ Mexican workers and improve the country's economy.

My goal is to establish a strong territory by October 1995 to turn over to the HP Mexico sales team. I'm trying to work myself out of a job. Then I'll look for another challenge." **M**

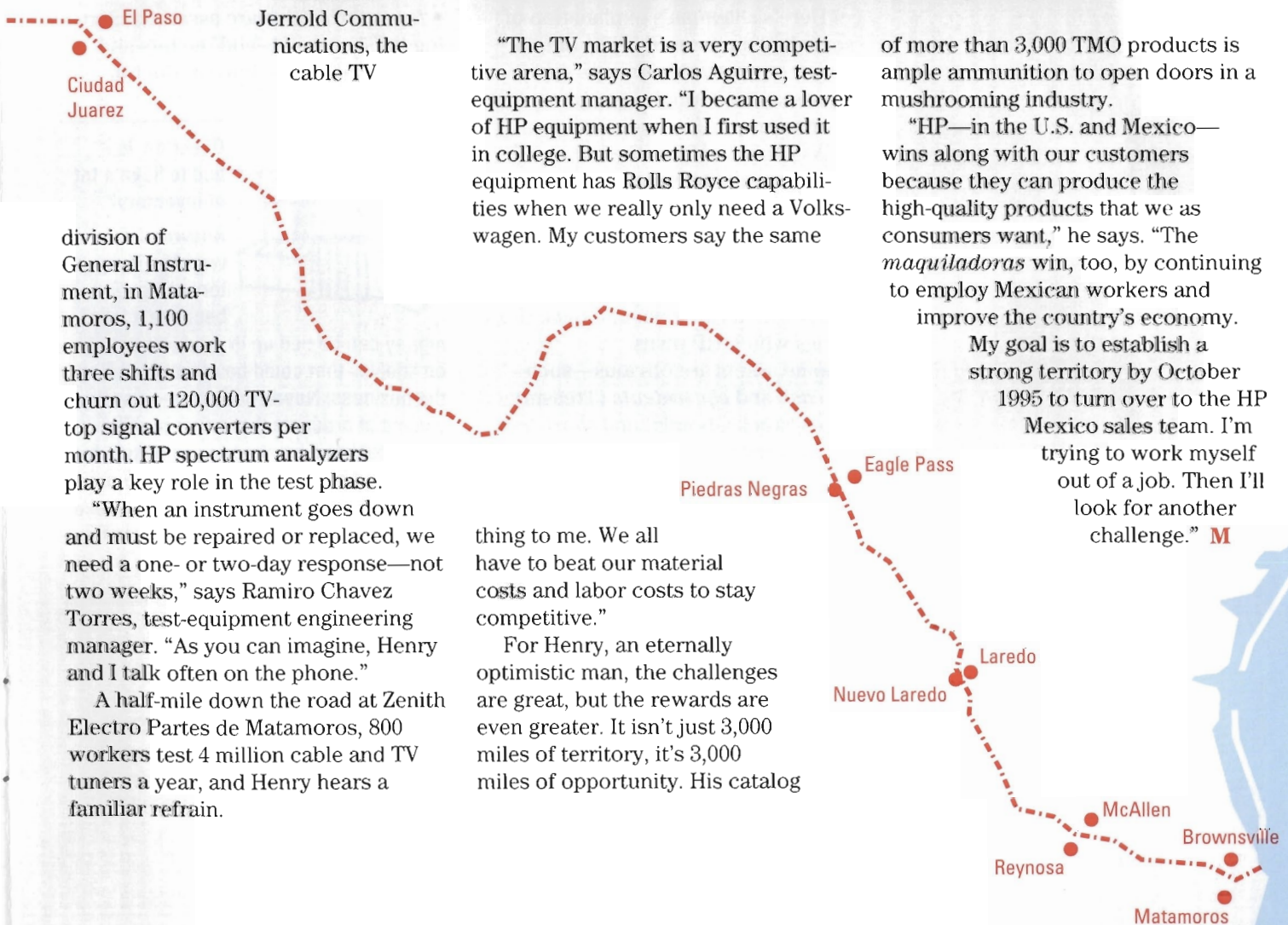
division of General Instrument, in Matamoros, 1,100 employees work three shifts and churn out 120,000 TV-top signal converters per month. HP spectrum analyzers play a key role in the test phase.

"When an instrument goes down and must be repaired or replaced, we need a one- or two-day response—not two weeks," says Ramiro Chavez Torres, test-equipment engineering manager. "As you can imagine, Henry and I talk often on the phone."

A half-mile down the road at Zenith Electro Partes de Matamoros, 800 workers test 4 million cable and TV tuners a year, and Henry hears a familiar refrain.

thing to me. We all have to beat our material costs and labor costs to stay competitive."

For Henry, an eternally optimistic man, the challenges are great, but the rewards are even greater. It isn't just 3,000 miles of territory, it's 3,000 miles of opportunity. His catalog



A primer on financial reporting

By Betty Gerard

How is HP doing? Here's a guide to those accounting terms that tell the story.

With Hewlett-Packard Company's 1994 fiscal year drawing to a close at the end of October, a rundown of the terms used in the company's balance sheet and consolidated statement of earnings which will appear in the annual report might be useful.

Here's a layman's explanation of some key terms used in the annual report or quarterly earnings statements, and a sprinkling of questions to answer.

As you'll see from the boxes, HP also has some terms of its own that are used internally.

The consolidated balance sheet (page 28 in the 1993 annual report) starts with a rundown of *assets*: those things which HP owns.

- Some assets are obvious—such as *cash* and *equivalents* (Treasury notes, stocks, bonds) and *short-term investments*.



Question: When does an order become a sale?

Answer: A sale is recognized when the product is delivered and

accepted by the customer—even if the money hasn't yet been collected (*accounts receivable*). The terms *sales* and *shipments* mean the same.

- Another asset is *accounts receivable*—the money that customers owe HP for products or services received. Obviously, the sooner the money comes in, the better—so HP has working capital and doesn't have to borrow money.

- *Inventories* also are assets (including finished goods and the bits and pieces that will go into products).

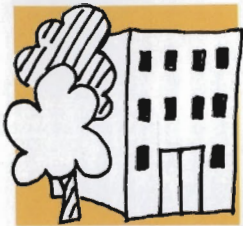


Question: Is it bad to have a lot of inventory?

Answer: HP watches inventory closely, because a lot of

money can be tied up in products sitting on shelves that could be at work funding the business. Needs will differ—if a large volume of products turns over rapidly, more stock will be needed as backup, for instance. Long shipping lines—with products on the high seas for a month—make inventory go up. There are also other factors to consider.

- *Property, plant and equipment* (sometimes abbreviated as PPE) includes land, buildings and equipment owned by the company. The latter two items can be depreciated over time, returning some money, but land cannot. At the end of 1993 HP



Question: How does ROA (return on assets) fit into all this?

Answer: Starting in July, all of HP's businesses

began measuring ROA along with measuring net profit in order to get a true picture of the cost of doing business. (MEASURE will cover the concept of ROA more fully in a later issue.)

had about \$7.5 billion invested in the places where HP people work.

The rest of the balance sheet deals with *liabilities* and *shareholders' equity*. *Liabilities* are what HP owes to suppliers; federal, state and foreign income taxes; other taxes, import duties, profit-sharing and loans. HP's balance sheet also shows long-term debt (\$659 million in 1993). *Shareholders' equity* is the value of stock held by shareholders. HP reserves some stock for the employees' stock purchase plan, stock option plans and other incentive compensation plans. Let's go to the next major chart:

The consolidated statement of earnings (page 24 in the 1993 annual report) is the big picture of company profitability for the year.

- *Net revenue* is the money HP receives from the sale of equipment and services before any expenses are taken out. *Revenue* typically refers to net revenue.
- *Costs and expenses* are everything across the board that goes into pro-

ducing and selling goods or services. These are broken down as *cost of equipment sold* (labor, materials and overhead that go into making products) and *cost of services* (service reps' labor, replacement parts, etc. involved in providing support services).



Question: What do the terms *cost of goods sold* and *cost of sales* mean? What are *operating expenses*?

Answer: For legal reporting, the Securities and Exchange Commission requires a breakdown of the direct cost of manufacturing products (called "equipment") and providing services. However, within HP these are lumped together as *cost of goods sold* (also known as *cost of sales*).

Operating expenses refers to costs of R&D, selling, general and administrative. (The latter three categories are sometimes abbreviated within HP as SG&A.)

Other expenses include R&D, selling, general and administrative.

- *Earnings from operations* is net revenue minus the cost of sales and

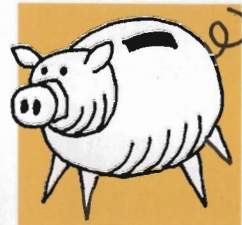


Question: What is *operating profit*?

Answer: The same as *earnings from operations*. Another term meaning the same thing is *profit from operations*.

operating expenses—before taxes and dividends.

- *Net earnings* are what's left after all expenses and taxes have been deducted. (We didn't discuss the item



Question: What is *net profit*?

Answer: The same as *net earnings*. Sometimes also called *net income*. The

term *net profit margin* (or *net profit percent*) is net earnings divided by net revenue—which gives the percentage of revenue that actually results in profits.

of taxes—but they cost HP more than \$600 million in 1993.)

- *Earnings per share* is a ratio dear to the investment community. Divide net earnings by the number of shares of common stock that have been issued.

These are the terms used in HP's legal reporting of its operations to shareholders and the outside world, as well as some internal HP equivalents.

In fact, the company has a whole vocabulary of financial terms used internally for management purposes. One example is *cost per order dollar* (CPOD): orders divided by field selling cost to determine the average cost of getting an order. Another is *backlog*: orders that have not been shipped. But these terms, while significant for running HP's business, are not part of the legal language that appears in the annual report. **M**

Oh, Canada!

By Heather Lynch

Covering nearly four million square miles in total land area—and six time zones—Canada is geographically the second-largest country in the world. What is it like to conduct business in this vast region?

“Distance is not a problem,” says Gordon Power, a customer engineer and one of two HP employees in the St. John’s, Newfoundland, office, which is located about 800 miles from the nearest HP office. “With limited resources I’ve become a jack-of-all-trades.”

HP Canada, a wholly owned subsidiary of HP, opened its first office in Montreal, Quebec, in 1961. Today HP Canada has more than 27 sites, including five manufacturing locations, all with R&D activity.

HP purchased Panacom Automation Inc.—its first Canadian manufacturing operation—in 1983. As Panacom integrated with HP, it specialized in hardware, particularly X terminals—high-performance, low-cost terminals that stand alone or complement workstation systems.

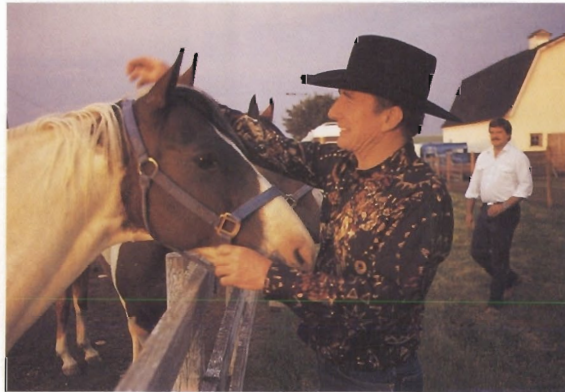
Overcoming geographical obstacles may not be difficult, but the province of Quebec offers a different challenge.

“There’s a law in Quebec mandating all business be done in French, so every document must be translated,” says Ginette Tessier, branch business manager in Montreal, Quebec. “It’s a continual challenge.”

Alan Holdway, sales manager for the Test and Measurement Organiza-



STUART MCCALLUP



GARY CAMPBELL/L.P.

above

Clint Wilson (right), an employee of HP customer MacMillan Bloedel, shows HP customer engineer George Meier the Lower Cameron Valley—near Vancouver—which was reforested six years ago with Douglas fir and balsam trees.

left,

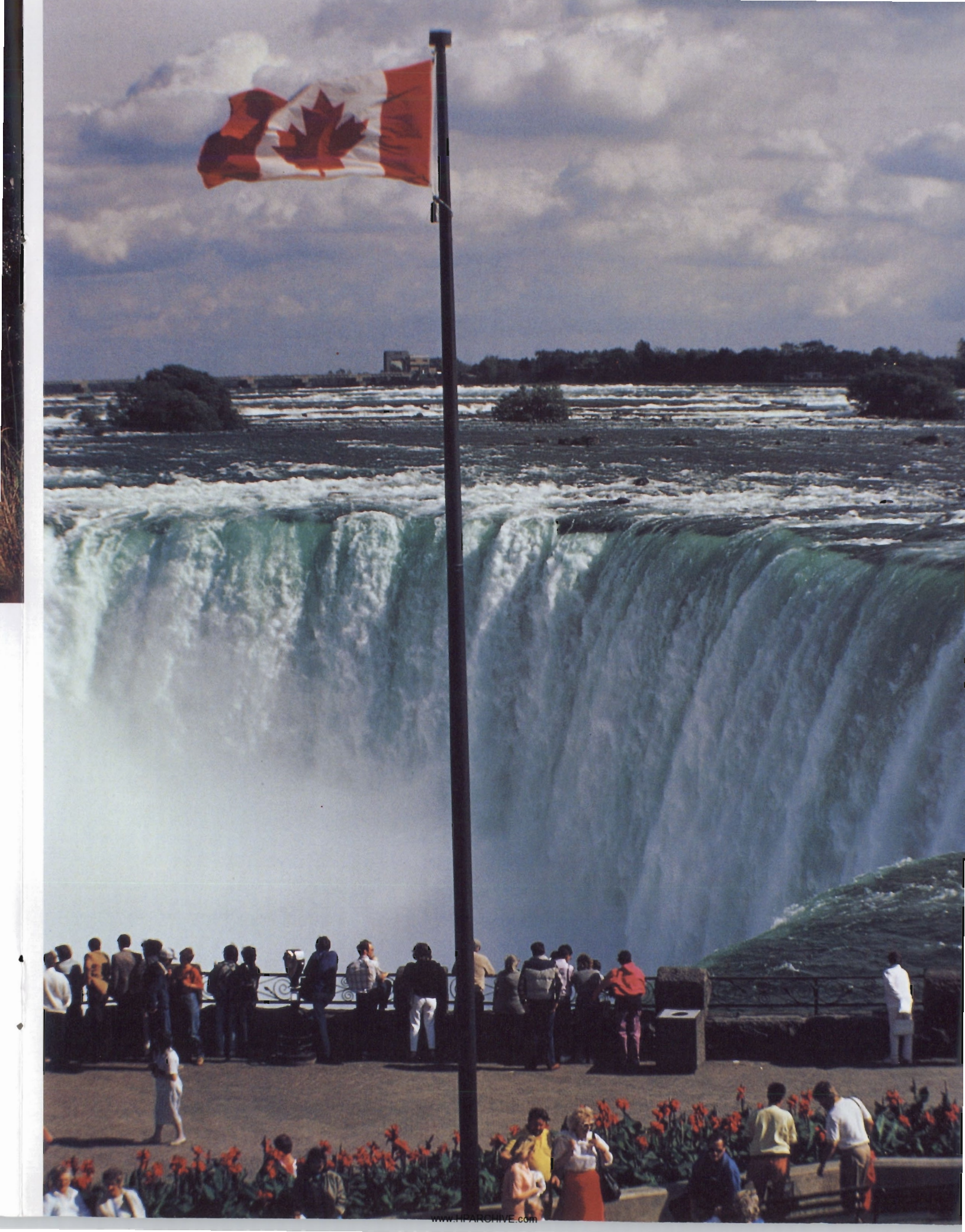
Each year, to celebrate the famous Calgary Stampede, Hal Dawson, sales engineer for HP’s Test and Measurement Organization in Calgary, invites friends and colleagues to visit his ranch and kick up their heels at an old-fashioned barn dance.

right

Hundreds of thousands of people come to the Canadian side of Niagara Falls each year to see the falls’ raw power and majesty. Just downstream is Ontario Hydro, an HP customer that harnesses electric power from Niagara Falls at its hydraulic generating station.

tion, emigrated from the United Kingdom 27 years ago and says that Canada has fulfilled most, if not all, of his expectations. “Canada is a country of generous people, and maintains a tremendous contrast both in climate and scenery.” **M**

(Heather Lynch, a student at California Polytechnic State University, San Luis Obispo, was a 1994 summer intern in HP’s Corporate Communications department.—Editor)





BERNARD BOHN/L.P.



ONTARIO MINISTRY OF CULTURE, TOURISM & RECREATION



PETER TANG/L.P.

PETER TANG/L.P.



above left

Bombardier, a multinational company known for its Ski-Doo snowmobile and for building trains, aircraft and other equipment, buys HP workstations, personal computers and X terminals. Daniel Dumas (left), Bombardier's Management Information Systems vice president, shows HP sales rep Pierre Pelletier a stainless steel model of a New York City subway train.

left

In an effort to clean up the Great Lakes, the Centre for Inland Water uses HP equipment to analyze the water. Robert Hong-You (right) from the Centre discusses the testing process with HP Analytical District Manager Murray Wigmore.

above right

In the Canadian capital of Ottawa, where HP Canada has a 112-person sales office, the pomp and circumstance of the changing of the guard takes place every hour on the hour.

above

Eugene Roman (right), assistant vice president for Bell Canada Enterprises (Northern Telecom), talks with HP Global Business Development Manager Geoffrey Cairns (left) and HP Sales Manager Paul Tsaparis (center) inside the BCE building.



above

Nothing slows down Test and Measurement Organization District Sales Manager Don Lacey, who enjoys sail boarding in

Vancouver's English Bay in the summer and skiing the slopes at Whistler Mountain in the winter.



MG project coordinator Maylin Evans (left) chats with HP's David Hughes not far from Oxford, England, where the new MGs are made.

HP puts Rover in the driver's seat

By Tom Ulrich

TestBook—a custom instrument from HP's Integrated Systems Division—accelerates vehicle repairs.

OXFORD, England—If history is written by its survivors, the men and women of Rover Group have a compelling story to tell. Ninety years in the making, Rover evolved from a 19th century West Midlands bicycle manufacturer to a worldwide supplier of 21st century automobiles and trucks.

Provincial from the start, Rover adapted to the global marketplace through partnerships with British Leyland (1968), British Aerospace (1988), Honda (1990) and BMW.

Driven to compete internationally, Rover recast much of its product mix before BMW purchased the lone British automaker in 1994. Since 1990, Rover Group has introduced four lines of coupes and sedans, launched Land Rover Discovery and rolled the first MG RV8 roadster off an Oxford production line.

Rover emerged from an age of uncertainty in top form.

In September 1993, Rover introduced yet another subcompact. It has four wheels and a power supply, but does not look or feel anything like an MG. Its gray sheet-metal chassis contains a 486 microprocessor, a custom instrument board, a LAN card, a CD-ROM reader and a 120 MB hard disk drive. This rugged analytical computer connects to an HP DeskJet printer and sports a flat-panel display.

TestBook, a new generation of precision instrument, grew out of a partnership between Rover Group and HP's Integrated Systems Division (ISD) in Sunnyvale, California. "We were looking for a company that had both computer and test-and-measurement expertise," says David Lawrence

Hallgarth, Rover project director. "We were looking for a tool that combined diagnostic capabilities with vehicle information to assist a technician making a repair."

"Rover did not want an off-the-shelf solution," explains John Morris, ISD's project manager. "So we worked with them closely to deliver a product that met their specific needs."

Rover and ISD engineers equipped TestBook with a vehicle-communication interface, digital instruments, expansion slots, battery pack and a touch-screen display.

Before this electronic toolbox arrived at Rover dealerships across the globe, technicians struggled to maintain all the computer technology that design engineers placed in late-model vehicles.

Diagnosing hard-to-find electrical faults, such as a flawed headlamp assembly or an intermittent sensor, is among the greatest challenges facing service departments. Industrywide, they account for 20 percent of a dealership's repair log and are the major reason for repeat repairs.

"Rover did not want an off-the-shelf solution."

"Traditionally, a technician diagnoses electrical faults by swapping parts," David explains.

TestBook combines computer-driven service tools and diagnostic strategies with on-line service information to guide a technician to the source of a problem and suggest a repair. These on-line tools find answers to complex electrical problems that technicians with hand-held tools often miss.



Rover's Max Holland (center) and HP's David Higgins discuss the HP-designed TestBook system while technical instructor Vic White (left) puts a new Rover through its paces.

With touch-screen technology and a direct link to the engine-control computer, technicians use TestBook to identify and repair faults that appear in the base engine and electrical systems such as anti-lock brakes, gear box, lamps and power windows.

If a headlamp circuit fails, the technician need not spend two or three hours pulling connectors apart, swapping parts and perhaps creating new problems. The technician can follow the prompts given by TestBook, perform the necessary tests with its electronic tools and fix the problem—tasks that should take about 10 minutes.

TestBook tracks the fault to a single wire or connector and specifies the procedure for making the repair. The technician can review the latest service information, product manuals and technical data using a built-in CD-ROM-based information system.

For elusive problems that occur on the road, a technician uses a customer flight recorder (CFR) that he or she plugs into the vehicle's data-communication link and sends home with the customer. When trouble occurs, the driver presses the button

and the flight recorder gathers diagnostic data.

After the recorder captures the data three times, the customer returns to the dealership where the technician uploads the information to TestBook and completes the diagnosis.

Once a technician completes the repair, TestBook prompts the technician for the cause of the failure. TestBook records this information and transmits it back to the factory so that Rover engineers can design more reliable automobiles and trucks.

TestBook reduces the time it takes a technician to find an electrical or engine-management fault by an average of 20 percent and helps him or her diagnose the problem the first time.

"Dealers are surprised by the usefulness of TestBook," says David.

To outfit a workshop with all the equipment required to service and maintain a modern automobile, dealers must purchase an engine analyzer, smoke meter, gas analyzer, diesel tester, suspension tester and wheel alignment rack. "Every time a dealer buys a new piece of diagnostic equipment, he buys a personal computer,"

Rover

says Brian Cade, principal engineer for TestBook. "From now on, a dealer needs to buy one PC—TestBook."

"There are as many people involved in the development of TestBook as the development of the new MG," says Paul Chappelle, Rover product manager for the diagnostic computer. TestBook required five development teams within Rover and six within ISD. Together, HP and Rover assigned the project 75 engineers.

"HP support for TestBook has been phenomenal," says Andy Griffiths, technical support manager for Land Rover. "The partnership between Rover and HP works well."

"TestBook changed the way we do business," says Bill Russell, Computer Systems Organization manager for HP Europe. "We no longer limit our success to short-term gain."

Six years in the making, TestBook accelerated Rover from a \$1 million to a \$50 million account. It is Part 1 of Rover

"HP support for TestBook has been phenomenal."

Group's long-term strategy for combining service, sales and parts information across a companywide data highway.

"Rover's commitment to TestBook is bigger than a model release," admits Andy Ridyard, diagnostic engineer at Land Rover. "For a model release, you launch and in a few years time, it will run its course."

"TestBook is like the Range Rover without end." **M**

(Tom Ulrich writes for HP's Integrated Systems Division in Sunnyvale, California.—Editor)



Industrial designers are problem-solvers, say Dave Skinner (left) and Gil Lemke, whose TestBook recently won an award for the people at HP's Integrated Systems Division.

More than just good looks

To some industrial designers, looks mean everything. They may pay more attention to a product's appearance than how useful it is. For Integrated Systems Division (ISD) designers Dave Skinner and Gil Lemke, aesthetics is just one of several important elements of their TestBook design.

"Our main concern is to make the product as easy to use as possible," Gil says. "For TestBook, we brought in auto mechanics to evaluate our early wooden mockups. Their suggestions strongly influenced our final design direction."

"For a successful product," Dave adds, "designers have to strike a balance between dissimilar design considerations, such as, ergonomics, manufacturing and cost, in addition to appearance."

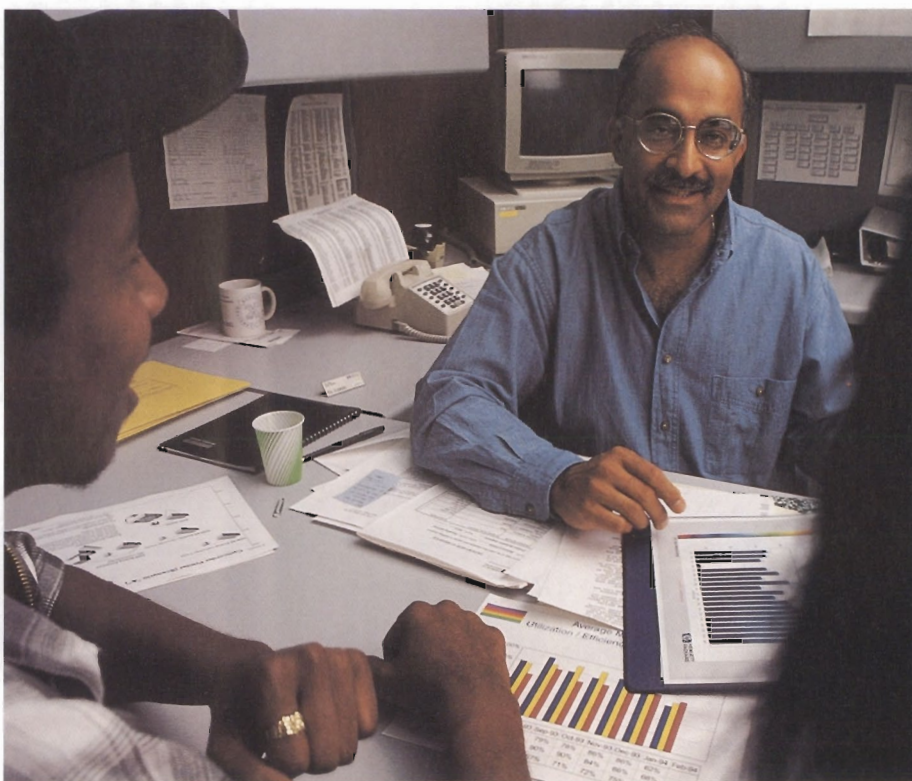
Following the rollout last September, TestBook received a bronze

award from the Industrial Design Society of America. The two designers credit the cooperation of the TestBook design team with the recognition.

"We are fortunate to work with engineers and managers who appreciate industrial design," Gil says.

Recently, *Motor Trader* magazine and IBM U.K. recognized TestBook with an award for the most innovative use of information technology in the automotive industry. The award cites TestBook for diagnostic excellence and overall increased customer satisfaction.

David Lawrance Hallgarth, Rover project director, agrees: "TestBook is the finest piece of diagnostic equipment in the world today."



ROBERT BURROUGHS/L.P.

San Diego employees rally around a special manager who took a personal interest in their future.

Raj Kirpalani walked into a turbulent situation when he took over two HP printer lines in 1992. Nearly two years later, more than 130 downsized employees were singing his praise.

Applying the human touch

By Mitch Mitchell

SAN DIEGO, California—Hewlett-Packard CEO Lew Platt often receives letters from employees telling him that their supervisor or manager has done an exemplary job. It's not too often, though, that he receives a letter like the one he got in mid-April. It told of the excellent job a particular manager had done—and 136 employees signed it.

The letter offered testimony to San Diego Division (SDD) production manager Rajender "Raj" Kirpalani's special rapport with his employees and his above-the-call-of duty concern for them. Initiated and written by production operator Nancy Cross on the HP DesignJet inkjet printer line, the letter was signed by every other DesignJet assembler, work-team coach, technician, engineer and administrative-support person.

The real story began in August 1992 when Raj took over the DesignJet 650

and 650C large-format plotter lines. He walked into a situation in turmoil: ergonomic and parts problems had dogged the lines for months and the whole production layout had just moved. Added to this were morale problems and ongoing efforts to integrate employees from downsized or outsourced departments.

As if all of this were not enough, the department's self-managed work teams—introduced two years earlier—were not overly successful in earning bonuses under a new pay system. Lastly, everyone was reeling from news that the DesignJet lines soon would transfer to HP's Barcelona, Spain, plant.

Raj saw that he needed to turn things around quickly. At a series of lunches, he sought solutions to the problems plaguing the lines and

Human touch

emphasized his firm belief in the HP way, stating that it's a two-way street.

"It's my duty to treat you openly and fairly," Raj told his troops. "And you have an obligation to fully contribute to the HP team."

Raj started plans for each worker to become a "part owner" of the DesignJet business. He reduced the size of work teams and had team members, coaches, technicians and engineers redesign the production lines. Later, team sizes were reduced further still and formed into groups that performed common tasks and gave each employee a greater chance to offer ideas for improving the production process.

"We could spot problems earlier and resolve them among ourselves. Both quality and productivity jumped," says Rick Brown, a DesignJet work-team coach.

Raj also sensed that many of his employees had negative feelings about their jobs and distrusted

"He trusted us and showed us a lot of respect. ... We really had the incentive to improve."

management. He set out to win their confidence and respect by proving that he understood their issues and was willing to give them the tools and training needed to succeed.

To get a firsthand look at what work-team members faced each day, Raj spent time on the line learning all of the assembly tasks. This simple act convinced team members of his willingness to get to know and work with



Raj helped Marcelino Ferrer (left) and Doug Ubry find new jobs on the San Diego, California, site when the HP DesignJet 650 and 650C plotter production shifted to Spain.

them. Raj knew that he could not fake sincerity. "People can tell if you mean it or not," he said.

Raj even hooked up a DesignJet to an HP Vectra personal computer and a scanner for employees to create and print their own posters. "This was the first time most of them had ever used a large-format printer," Raj says, "and it gave them a better feel for how customers would use it."

"I saw that everyone needed to learn our business and how each one's decisions and actions affected it. Then I gave them a chance to put their decisions into motion," Raj says. This approach let everyone know that Raj depended on them to resolve production and team issues themselves.

"He trusted us and showed us a lot of respect," says Magy Marrero, who worked for Raj for nearly two years.

"If you had an idea, he'd tell you to go with it. We really had the incentive to improve." Employees' ideas were used to modify tools, track parts, set safety standards and in other areas.

"Barrier" meetings were another innovation Raj brought to the group. At the daily meetings, problems that prevented the lines from achieving their daily goals were thoroughly discussed. Sherry Hunga-Moore, a coach, remembered the often spirited meetings. "We worked out solutions to everything from parts shortages to insufficient tooling," she said.

The DesignJet teams relished their new responsibilities and thrived under Raj's watchful coaching. During a two-year period, quality errors dropped from nearly 16 per cent to just over one percent. The number

of hours it took to make one unit dropped from 14 to less than six. The most impressive improvements, however, were in how many—and how—DesignJets were built. In the fall of 1992, it took 147 work-team members

“We had a lot of good times, but we really earned those rewards. Raj knew how far we could stretch.”

on three shifts and two lines to assemble about 2,500 units each month. Eighteen months later, 92 people on two shifts on one line could make more than 2,600 plotters.

“There wasn’t any real secret to it,” says Raj, who since has become the quality-assurance manager for the San Diego Division. “We turned the corner because everyone solved problems at their level. They understood what quality and cooperation really meant.”

Raj also used something more basic to motivate his employees: fun!

Each work team was given a rewards-and-recognition budget to celebrate achieving goals and milestones. “We’d have a lunch or dinner or we got to go home an hour early on Fridays when we met our quotas,” said work-team member Yolly Cobos, remembering her days on the DesignJet line. “We had a lot of good times,” echoed line-mate Victoria Meredyth, “but we really earned those rewards. Raj knew how far we could stretch.”

The greatest challenge for Raj and his crew came earlier this year when plans for transferring the DesignJet line to Spain were put into action. Raj



ROBERT BURROUGHS/I.P.

“We succeeded,” Raj says of his HP DesignJet experience, “because we focused on the means rather than the end.” He gives the same philosophy in life to his children, Priya (left) and Sach.

had to coordinate the physical move and redeploy everyone who worked for him.

He had started the process six months earlier by holding coffee talks and one-on-one meetings to explain why the line was transferring and its impact.

Work-team member Irene Gomez says that Raj was very determined to make sure that all of the DesignJet employees found other jobs. “He had meetings on everything,” she says. “He brought in speakers from different departments to talk about their job openings and even arranged for us to tour other areas.”

One thing that impressed Irene was that Raj had everyone complete a form stating a new job choice. “It showed that he put a lot of effort into finding the right job for each of us,” Irene says. Raj also arranged for additional training for those employees who needed to bolster their skills before they could be successfully placed elsewhere.

By mid-April, all of the DesignJet crew had been placed on other manu-

facturing lines. Raj’s former employees thanked him for his guidance and support by treating him and his wife to a dinner at one of San Diego’s finest restaurants.

Today, Raj looks back on the big and small triumphs of his DesignJet days with a sense of satisfaction. “We succeeded because we focused on the means rather than the end,” he says. “I worried more about how we did things and the results always reflected the excellence of the effort.”

When pressed to describe his management approach, Raj simply says, “I really don’t have a particular style of management. I just try to treat people in an honest, open and fair manner. I operate on the human-to-human level.” **M**

(Mitch Mitchell is the communications manager at HP’s San Diego, California, site.—Editor)

"I'm losing my job"

By Jim Haberkorn

BOISE, Idaho—I'm losing my job. I would like to be able to say I am going through a transitional period in my career, but it feels too much like I'm losing my job to call it anything else.

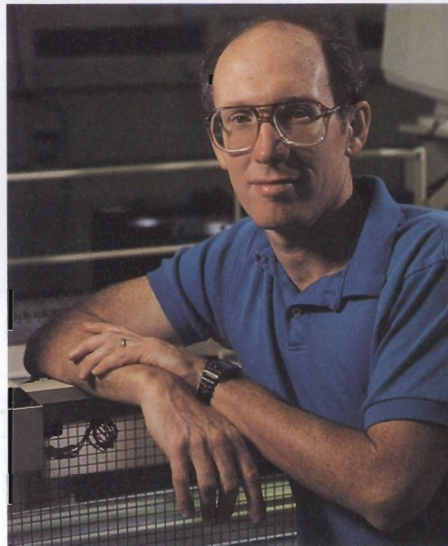
I work in a manufacturing facility in HP that is scheduled to close its doors next year. All 600 of its employees have to find jobs between now and then.

There is a very strong possibility I may only find work on an off-shift. If that happens, I will hardly see my family except on weekends. Right now, though, I'd be happy just to know I'll be keeping my present job level. Because of the scarcity of manufacturing jobs I could be re-scoped to a lower job. If that happens, I know HP will preserve my current salary for several years, but my mortgage is for 30 years and even my car won't be

"It's unrealistic to think that HP would create a job just for me."

paid off before the transitional salary guidelines start taking money away from my paycheck.

If I had to take a salary cut, I couldn't pay my bills. To keep my current job level I might have to take a transfer to a division in a different



Boise, Idaho's Jim Haberkorn.

state—providing there was an opening and that I met the minimum qualifications.

The bigger problem is that my spouse likes it where we live and we have three children. We are settled here. Homes are affordable and crime is low. The kids have friends. Moving would be very difficult.

Some of my friends keep reminding me that this is HP and HP will take care of me. But these days, every company is feeling the pressure of competition and eroding profit margins. It's unrealistic to think that HP would create a job just for me.

I've worked in manufacturing at HP for more than 16 years and been through three product closures that each time sent me looking for another job within the company. But this clos-

ing is different. The product didn't become obsolete. It wasn't replaced by another product. It will still be built; it just won't be built in this country.

I think that is the main reason why I am so unsettled, maybe even a little scared. The business *really* is chang-

"However, the company doing well doesn't always translate into individuals doing well."

ing. Production assembly no longer seems to be viewed as a core competency. It has become another movable piece in a larger chess game where company survival is the prize.

The trouble is, I can't argue with the direction our managers have taken us. The company appears to be making the right moves. The company as a whole is doing well at a time when many companies aren't. However, the company doing well doesn't always translate into individuals doing well. If the number of manufacturing jobs on my site really is shrinking through overseas moves or productivity improvements, I'm going to have a very hard time finding employment in a functional area outside of production. I know that.

Despite knowing and understanding all this, I still feel angry some-

times. As production jobs go away, a lot of good people—not just me—who don't have degrees but who are hard working, dedicated employees are going to have a very difficult time finding work within HP. Virtually all of the posted finance, marketing and engineering jobs require specialized training or college degrees; many hiring managers prefer master's degrees. The average production worker, or even production supervisor or manager, would be hard pressed to qualify for these positions.

I'm worried that my skills have not kept up with the available jobs. I feel a little like a blacksmith in an age of automobiles. I want to have choices. I would like to stay on the same shift, at least on the same pay level, doing something I am good at. If there are options out there, I'm not really sure what they are. I hate to just sit here waiting for the company to stick me somewhere, but I don't know what else to do.

I don't want to leave HP, so I feel stuck. I don't have the skills to interview for a nonproduction job and I

"If I could write a letter today... I would warn myself not to be complacent."

don't have the time to go back and get a degree before the shop closes. I hope everything turns out all right, but I won't know for a few more months.

If I'd known two years ago what I know now, I would have spent the last two years getting ready for this situation. I should have seen it coming. Our managers didn't hide the fact that

overseas competition was fierce. In Thailand and Mexico there were companies in our line of work, with quality comparable to ours, paying their assembly people 50 cents per hour and no benefits. That is tough competition.

If I could write a letter today and magically have it delivered to myself two years ago, I would warn myself not to be complacent. I have learned

"The forces causing this upheaval in our work lives can't entirely be offset by everyone going back to school."

that while HP has historically been a very stable employer, for many people, even a disturbance as simple as having to change work shifts can prove to be a traumatic experience.

I would advise myself to do everything I could to become more marketable both inside and outside the company. In a way, I stumbled into working for HP. Staying here is probably still the right choice for my career, but I would advise myself to spend some time sorting through my goals and aspirations. I would do an inventory of my talents, dividing them into the technical and non-technical, remembering that "soft" skills are also valuable and transferable to many jobs both inside and outside of HP.

I would make a conscious decision about what career I really wanted to pursue. I would talk to managers and workers in my area of interest and find out what it takes to be successful. I would then work out a plan to

achieve my goal.

I think, lastly, in my letter, I would remind myself that the answer doesn't just lie in the realm of training. The forces causing this upheaval in our work lives can't entirely be offset by everyone going back to school. We can make ourselves personally more competitive, but we also need engineering, finance and marketing people to work with us, valuing the work we do, and structuring the production environment in such a way that we can continue to employ production operators at HP.

For thousands of HP employees, production is what they do; it is who they are. If the production jobs go, they go too. Perhaps, in the final analysis, the solution lies as much in the area of teamwork between functional areas as it does in the areas of technology and training. **M**

(Jim Haberkorn, a member of the Boise (Idaho) Surface Mount Center (BSMC) transition support team, wrote this article based on his experiences and those of other BSMC employees. The article is meant to convey the painful choices many people in Boise—and HP—must make.—Editor)

What's on your mind?

Do you have a suggestion about how to improve HP, an anecdote about the HP way or an HP-related comment in general? Send your "On my mind" article—up to 500 words—to Jay Coleman on HP Desk, by fax (415-857-7299) or to Jay at the *MEASURE* address on the back cover.

One of the best

Your March-April *MEASURE* article on our competition was one of the most interesting and useful ones that I have seen. I hope *MEASURE* updates the story on a recurring basis because the market changes so rapidly.

LEW FOX
Naperville, Illinois

Is there a doctor in the house?

I have a question, sparked by the July-August story, "From the bottom of HP's heart." Are stethoscopes available for employee purchase? Is there a whole product line of stethoscopes available?

CARL CHOW
Santa Clara, California

Now hear this: According to the Medical Products Group's Mike Chase, HP makes only one—the Hewlett-Packard Rappaport-Sprague stethoscope. It's available with 14-, 18- and 24-inch hoses, and in a mahogany-finished case. Prices range from \$131 to \$166. Employees may purchase them at a 30-percent discount through their purchasing or personnel departments, or through the Employee Purchase Program.—Editor

The blue lagoons?

I enjoyed reading the article about the Medical Products Group G.M. Gary Eichhorn in the May-June edition. Just one question: What are "Caribbean eyes"?

BARBRA GLASER
Waltham, Massachusetts

The blue pigment in Gary's eyes reminded writer John Monahan of the water in the Caribbean Sea.—Editor

Employee of the Year

Craig Hugins deserves to be named HP "Employee of the Year" for having the courage to say—in print—what so many of us feel ("Strategic or short-sighted," July-August).

And *MEASURE* deserves to be named "Corporate Publication of the Year" for printing it.

CRAIG CALLAWAY
Sunnyvale, California

Will anyone listen?

Thanks for Gregg Piburn's article, "Tell it like it is," in the May-June edition. The sorry thing is that it takes a former HP employee to get the audience.

Gregg talks about three out of 24 employees providing "ready responses." What should really worry us is the rapidly decreasing number of people within HP still sufficiently unprejudiced to listen to criticism.

R.P. BECKER
Bad Homburg, Germany

It could happen to me

One line in Chris Hugins' article struck home especially hard: "Today we have a stratified work force where regular employees are haunted by the fear of becoming 'one of them'—the workers without benefits..."

I was pretty fortunate through the Nasty Eighties; I did not become one of the layoff statistics we read so much about. But it became clearer and clearer over time that no job was safe.

While earning my engineering degree I "co-opped" for a company from which a large number of engineers retired. To "cut headcount," they did not hire replacements, but they had to hire a temporary person to carry the workload.

One temporary employee had had a (supposedly) secure job at a mining company in the Southwest, but had been laid off. Now he was unable to find any engineering work except as a temporary. He was not eligible for any benefits—health, vacation, etc.—until he had worked something like 1,000 hours for the temporary agency. And he was paid a pittance to boot!

Having seen this, the promises by any company of job security—even HP—ring pretty hollow for me. Especially when I see temporaries and contract workers all around me here at HP, I think, "There but for the grace of God and economics go I."

BARBARA PARCELLS
San Diego, California

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 most).

Fax comments to (415) 857-7299. Address HP Desk letters to Measure MAGAZINE or send your comments to Jay Coleman, Mailstop 20/BR, Palo Alto. Our Internet address is Measure_Magazine@hp0000.desk.hp.com. Please limit your letter to about 150 words, sign your name and give your location. We reserve the right to edit letters.

HP's chairman, president and CEO discusses how complacency can destroy a great company—and how HP can avoid that path.

People frequently ask me what I worry about the most, and my answer is always the same: complacency.

Is Hewlett-Packard a complacent company? Has our climb to No. 19 on the Fortune 500 list of top U.S.-based companies given us a false sense of achievement and satisfaction? No, I don't think so. However, I believe we do need to guard against complacency.

Let me explain.

When you're the challenger, you have a natural, built-in drive. You work with a high level of energy and creativity. In many areas, we are the leader in volume and brand recognition. IBM is bigger, for example, but a lot of people consider HP to be the "thought leader" in the industry.

We've received considerable media attention in the past few years because we've weathered the industry storms better than IBM, Digital Equipment Corporation and other companies. But it's dangerous when you start believing all your press clippings.

Look at IBM, General Motors and Sears Roebuck. Those once-great companies were so strong, you couldn't imagine anyone overtaking them. Yet, they stumbled badly.

The demise of a great company usually begins when you think you really understand what the market wants and you stop listening to customers as you did when you were a challenger. Or you start to miss subtle indicators of change.



DOUGLAS PECK

A professional interpreter translates Lew Platt's comments during HP's 1994 Deaf/Hard of Hearing Forum earlier this year in Palo Alto, California.

Why didn't Sears see Wal-Mart coming? Why was General Motors convinced that Americans didn't want to drive small cars? I think they became myopic and started to miss important signals.

Sometimes great companies become too protective. They want to stick with what made them successful a little too long. In that atmosphere, it's easy to shut out ideas that could save a business. It's easier to fall asleep on a straight road than one filled with curves.

I'm absolutely convinced that HP has some natural assets that can prevent us from falling asleep at the wheel:

- We have an environment of open communications. We hire and nourish people who challenge the status quo.
- We commit a lot of money—more than most of our competitors—to research and development. At HP Labs, for example, we encourage parallel paths to the same end. We also allow people to look at radically different approaches.
- We're pursuing a vision of the future called MC². HP is one of only a few companies with expertise in

measurement, computation and communication—and that can be a true competitive advantage.

Those strengths don't guarantee that HP will continue to be successful. In fact, sometimes we get financially and personally complacent. For instance, we traditionally do well financially in the first half of the year, then overspend in the second half. And as individuals, we have to guard against complacency in our jobs, as Jim Haberkorn suggests on page 24.

There is no complacent company without complacent employees. That's why we all need to think about, challenge and improve everything about HP.

If each of us successfully guards against complacency, no one will ask, "What happened to HP?"



SHARON HALL

Bob Traynelis (right) puts the finishing touches on the 92-foot-long mural he designed and painted for a high school graduation party.

The whole world in his hands

Bob Traynelis wanted to help make his son's high school graduation party special. So he helped design and build a world.

Bob, a marketing contracts manager for HP's U.S. Field Operations, was the driving force behind "Passport through Time,"

the theme world created for Monta Vista High School in Cupertino, California.

The world included a 92-foot-long mural and movie-like sets of a 1950s drive-in, the Old West, a 1920 speak-easy and a Renaissance fair.

It's not just an HP printer, it's a squid

HP Italy celebrated the 10th anniversary of HP Inkjet and LaserJet printers—and the 10 millionth sale of each—in May with a traveling, countrywide event.

HP's Computer Products sales and distribution in Italy outfitted the Settebello express train with the latest HP personal computer, printer, plotter and scanner products for a 10-city tour.

The Venice-to-Milan tour stopped in each city from

10:30 a.m. to 8:30 p.m. so that local citizens and tourists could sample the products firsthand.

In the seaside city of Bari, a man dressed like a sailor listened intently as an HP rep explained the

technology behind the HP DeskJet 520 printer, which squirts ink onto the page. "Oh, now I realize," the man said. "It's nothing different than a squid!"



The high-speed Settebello train zoomed into 10 Italian cities to help celebrate 10 years of HP printers.

A guaranteed HP cover story every time

One measure of a company's success is how often its name appears on the cover of major business publications. HP's Professional Services Organization (PSO) Asia Pacific marketing group has found the solution: an HP cover every time.

Every two months, a design firm for the PSO team creates an HP-specific cover that carries a marketing message to key decision makers at Computer Systems Organization customer accounts.

The customized cover, which looks like a cover from *Asian Business* magazine, is "wrapped" around a

real issue of the popular magazine and sent to 2,000 HP accounts, opinion leaders and channel partners. Success stories on the inside cover complement the "wrapper."

"It's been well received by customers," says Asia Pacific PSO's Frank Humphries.



A toast for 40 years of service

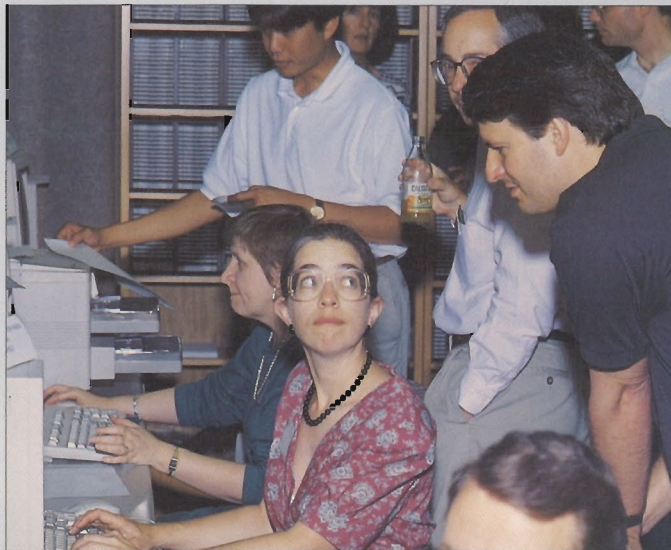
"A research library is at the heart of any research laboratory. If we are to be regarded as the world's best industrial research lab one day, then it follows that we must work hard to make this the best research library that there is."

That's how Joel Birnbaum, HP senior vice president of R&D and head of HP Labs, summed up the importance of the HP Laboratories Research Library in July when he addressed the 100 people who came to cele-

brate the library's 40-some years of service.

Employees were treated to hors d'oeuvres, sparkling apple cider and computerized data-base demonstrations during the two-hour open house.

"We're blessed with an imaginative, creative staff," library chief Eugenie Prime told the group. "I think that this, together with management's support, is all we need to continue providing excellent service for years to come."

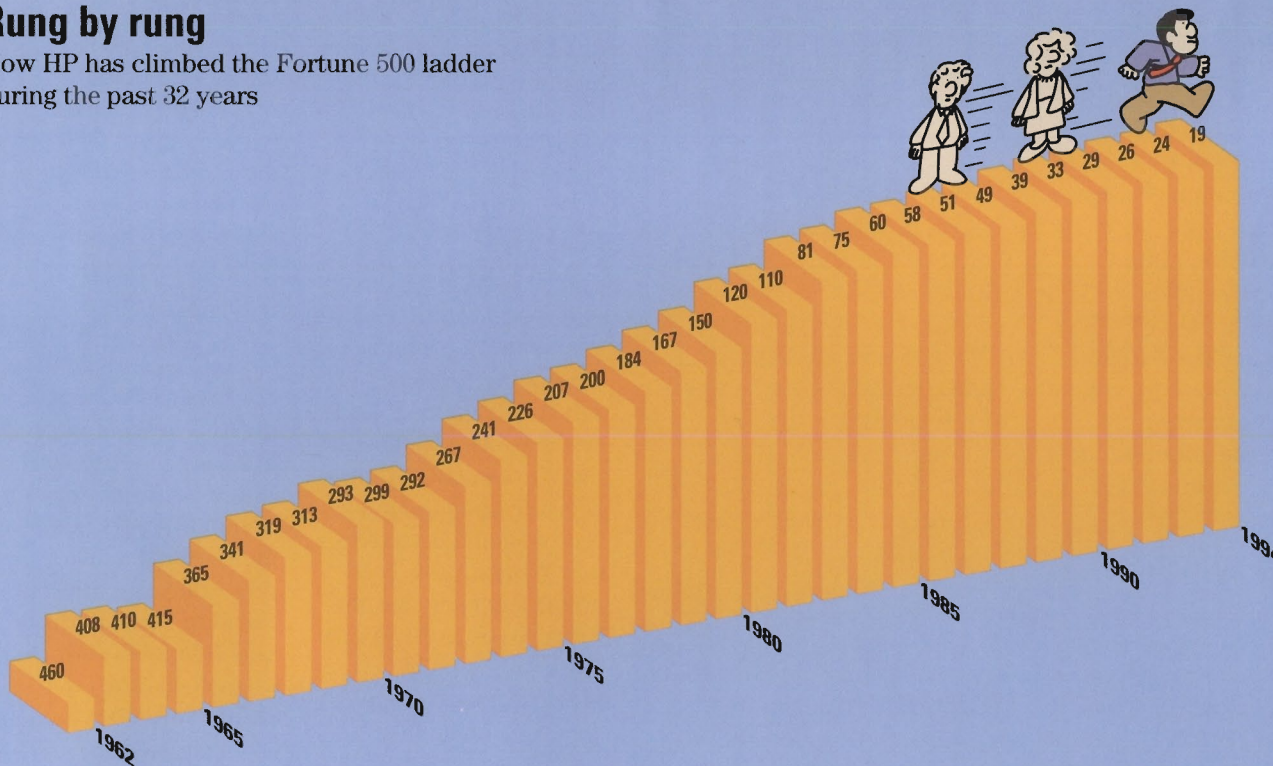


DOUGLAS PECK

Kathie Gust demonstrates one of the computer-based tools to customers recently during the HP Labs Research Library celebration.

Rung by rung

How HP has climbed the Fortune 500 ladder during the past 32 years





Santa Rosa's Brian Purcell prepares for the grueling World 100-kilometer Ultra Marathon Championship in Hokkaido, Japan.

HP runner shows samurai spirit

Hokkaido, Japan—Brian Purcell, a standout American runner from HP's Microwave Instruments Division in Santa Rosa, California, recently helped Yokogawa-Hewlett-Packard (YHP) get a lot of "mileage" for YHP when he participated in the World 100-kilometer Ultra Marathon Championship here.

YHP funded Brian's flight to Hokkaido, and the investment paid off when the finance department employee finished 50th out of 2,000 runners.

Three major newspaper articles mentioned YHP in

feature stories about Brian, including the Nikkei Newspaper, which praised his "samurai spirit."

"This helped increase awareness of HP in Japan," says YHP public-relations manager Ron Soyama. "The visibility was 30 times more valuable than the cost of the airline ticket."

Brian earned his place on the U.S. team by finishing fourth in the USA 100K championship in February. The U.S. team took third place in the 23-country field in Hokkaido.

Quoteworthy

“ I was looking for order growth of 21 percent or 22 percent. They blew that away. ”

Laura Conigliaro, Prudential Securities Inc. analyst, commenting on HP's 27 percent, third-quarter increase in orders.

BOTTOM LINE

For the FY94 third quarter, Hewlett-Packard reported a 28 percent increase in earnings, 22 percent rise in net revenue and 27 percent order growth compared with the same period in 1993. (3Q FY93 numbers are shown below in parentheses). CEO Lew Platt said "overall results were much better than were reported in the third quarter in recent years."

Net earnings were \$347 million or \$1.33 per share on some 261 million shares (\$271 million or \$1.06 per share). Net revenue was \$6.1 billion (\$5.0 billion). Orders were \$6.0 billion (\$4.7 billion).

CHART CHANGES

In a reorganization of the Workstation Systems Group, the former Advanced Systems Division has been renamed the Workstation Systems Division and expanded. It now includes the former Workstation Technology Division and the Entry Systems Division's marketing and R&D.

Mark Canepa remains general manager.

The former Mass Storage Group under G.M. **Bruce Spenner** has been renamed the Information Storage Group.

In the Personal Information Products Group, a new Networked Systems Business Unit under G.M. **Duane Zitzner** includes the Network Server Division and the Roseville Networks Division. Renamed: Home Products Division (Interactive TV Appliance Division), Mobile Computing Division (Corvallis Division).

ASIA PACIFIC

HP and its CSO distributor in Vietnam have opened a Centre for Open Systems Computing Expertise in Hanoi... HP plans to set up its first subsidiary office in the Philippines by the end of 1994.

The Medical Products Group has expanded its operations in China, taking a 75 percent interest in a joint venture with China National Corporation of Medical Equipment Industry. The new company, Hewlett-Packard Medical Products (Qingdao) Ltd., will be managed by **Ong Keok Teng**. It will manufacture medical products for worldwide sale.

RICH IWASAKI/L.P.



Nancy Forman's "involvement" extends to her leisure time when she's on the medical team at Portland International Raceway.

HP employee "gets involved"

Nancy Forman has a simple philosophy when she teaches classes in cardio-pulmonary resuscitation (CPR): If you're not prepared to go the distance, don't get involved.

So, acting on her instincts—and 26 years of experience as a critical-care nurse—Nancy, a clinical specialist for HP's Diagnostic Cardiology Business Unit in McMinnville, Oregon, recently saved a life.

She was on a United Airlines flight from Portland, Oregon, to Denver, Colorado, when a passenger experienced cardiac problems.

Nancy took control of the situation. She checked the man's pulse, quizzed him about his medical history and eventually "thumped" his chest when it appeared

that he had no respiration or heart rate. The man began responding again after the second "thump."

She also ordered the pilot to return to the Portland airport—something she can do in a medical emergency—where the man was taken to a local hospital. Nancy stayed on the same flight and arrived in Denver 1 1/2 hours late—but a hero.

"It wouldn't have been right not to get involved because of the fear of being sued," Nancy says. "I had the skills to make a difference. There really was no choice."

NEW HATS

New appointments within the Computer Systems Organization (CSO):

In Computer Order Fulfillment and Manufacturing, **Pierre-Francois Catte** continues as G.M. of the Exeter Computer Manufacturing Operation and adds a hat as G.M. of the Networked Computer Manufacturing Operation.

In Japan, **Shigechika Takeuchi** has joined Yokogawa-Hewlett-Packard as CSO Japan Business Development G.M...**Karen Slatford** to G.M., U.K. CSO.

Olivier Trancart to dual role as G.M. and CSO manager of HP Hungary.

Within the Computer Products Organization, **Bernd Bischoff** to G.M. for Sales, Distribution and Support-Europe.

Within Worldwide Customer Support Operations, **Paul Balnys** to G.M. of Complementary Products Sunnyvale.

In the Test and Measurement Organization, **Jack Leber** to TMO China Coordination manager, **Doug Halbert** to G.M., Korea Instruments Operation.

PAFC SALE

Sale of all Palo Alto Fabrication Center activities has been announced, with its businesses—sheet metal and cabinet, custom wire and cable, die cast, and plastics—going to four different buyers.

NEW PRODUCTS

From the Corvallis Division: the 200LX with a built-in version of Pocket Quicken for financial tracking, and the 486-based HP OmniBook 530 superportable PC.

The Analytical Products Group's HP G2025A mass spectrometer is the first based on matrix-assisted laser desorption/ionization (MALDI-TOF) to determine molecular weights.

The HP Fibre Channel/9000 network interface from the Information Networks Division is the first in a series of HP Fibre Channel products.

The HPA2882A flat-panel display introduced in January by the Workstation Systems Group has won two top design awards: a 1994 IDEA and a Design Zentrum Red Dot.

A tale from the Old West

CORVALLIS, Oregon—Images of the Old West remain strong in the United States today, and historic signposts such as Nathan Meyers' photo (right) keep those memories alive.

"Oregon—home of HP's Corvallis and McMinnville sites and the Portland sales office—also was the destination for 300,000 settlers who braved the Oregon Trail," says Nathan, an R&D engineer in Corvallis' Workstation Systems Division lab.

"Eastern Oregon's Baker Valley, the site of this photograph, was the pioneers' first sight of Eden—a beautiful but deceptive view, because they still faced several hundred treacherous miles to the Willamette Valley where most settled.

"In 1993, Oregon celebrated the 150th anniversary of the opening of the Oregon Trail, an event that led to history's largest



NATHAN MEYERS

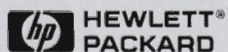
unforced mass migration. Oregonians celebrated by visiting the historic sites (wagon ruts are still visible in some parts of the Trail), learning the hardships faced by the settlers and

even taking a few steps toward understanding the effects the migration had on the people who lived here first.

"As Oregonians face the effects of today's Oregon Trail—the mass migration of disaffected Californians

to the northwest—their history reminds them that the greatness of this area comes, in no small part, from the many people who chose to leave their homes for a fresh future in Oregon."

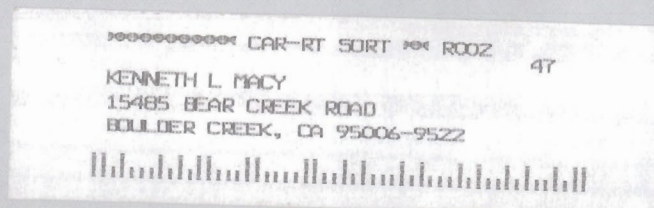
MOVED LATELY? CHANGE OF ADDRESS SHOULD BE REPORTED TO YOUR PERSONNEL DEPARTMENT.



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