

February 2000

Lucent

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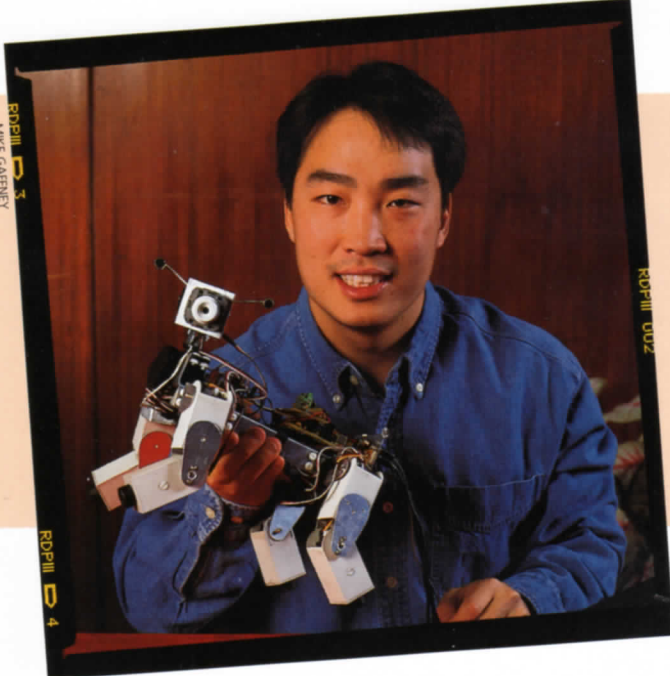


ANSWERING THE CALL TO ACTION



I N S I D E

Creating a Can-Do Culture • Teams Who Know How to Deliver



Robotic Canine Helps Researchers Hound Understanding of Human Mind

Dan Lee's metallic mutt can recognize his face and turn its head to follow his voice—when it's hooked up to his laptop. Algorithms in the laptop mimic biological neural networks, and are a result of Lee's research into the way humans sense and learn. A researcher at Murray Hill, N.J., Lee recently presented his findings to high school students at a Bell Labs World of Science seminar. He believes his work could lead to smarter computers that respond to their users, and could be applied to future systems.



READERS' LETTERS

It's About People

I can't recall a *Lucent Magazine* that I enjoyed as much as the November/December issue ("Building Next-Generation Networks"). Seeing my colleagues' children pictured reminds me that everything we do is about people, whether they are employees, customers, shareholders or suppliers. If we want the next generation to continue the tradition of working for Lucent, then we must continue to distinguish ourselves as the employer of choice today. Currently, we are *Fortune* magazine's 44th best company to work for in America. Let's strive to be No. 1 for the next generation's sake.

Carl Dorsey
Breinigsville, Pa.

Laureate Count

In the January 2000 issue of *Lucent Magazine*, the number of scientists awarded the Nobel Prize for work done at Bell Labs was given as 11 ("Bell Labs Celebrates 75 Years of Inventing the Things That Make Communications Work"). I count 13. The two omitted were Charles Townes and Arthur Schawlow. Though receiving their Nobels 17 years apart (1964 and 1981), the common achievement for which both were cited was the development of laser technology. Townes had left Bell Labs and was with Columbia University at the time of his pioneering work on the maser (the laser's

genesis), but I believe it was in his capacity as a Bell Labs consultant that he collaborated with Schawlow, a Bell Labs MTS, in originating the concept of the laser in the 1950s.

Daniel Costigan
Edison, N.J.

[Our list includes only those Nobel laureates who received the prize for work they did at Bell Labs. Schawlow and Townes invented and published the laser concept while working at Bell Labs, but Townes' 1964 Nobel Prize was for work he did before he arrived at the Labs. Schawlow's 1981 prize was awarded for work he did after he left. —Editor]

Bell Labs in Good Hands

The January issue of *Lucent Magazine* was very informative. I especially liked the thumbnail essays about Bell Labs, describing where we were and where we're going ("Bell Labs Celebrates 75 Years of Inventing the Things That Make Communications Work"). Having been a small contributor to the growth of Bell Labs, it is heartening to see that we handed the baton over to such able and dedicated innovators. I am confident that Bell Labs and Lucent will remain the driving force in changing and expanding technology in communications for years to come.

George Scharg
Deland, Fla.

Lucent Magazine ONLINE

Go to <http://today.lucent.com>, click on **Newsroom** in the navigation bar at left, and then click on **Lucent Magazine**. (Only Lucent employees can access this site.)

Amazing Advancements

I am excited to work for Lucent Technologies, and appreciate *Lucent Magazine* for the information that keeps me driving to achieve the highest quality that I can produce. I am simply amazed at our advancements in technology. I work in installation, and hope I am always an important asset to Lucent.

Michael Harrell
Tampa, Fla.

contact

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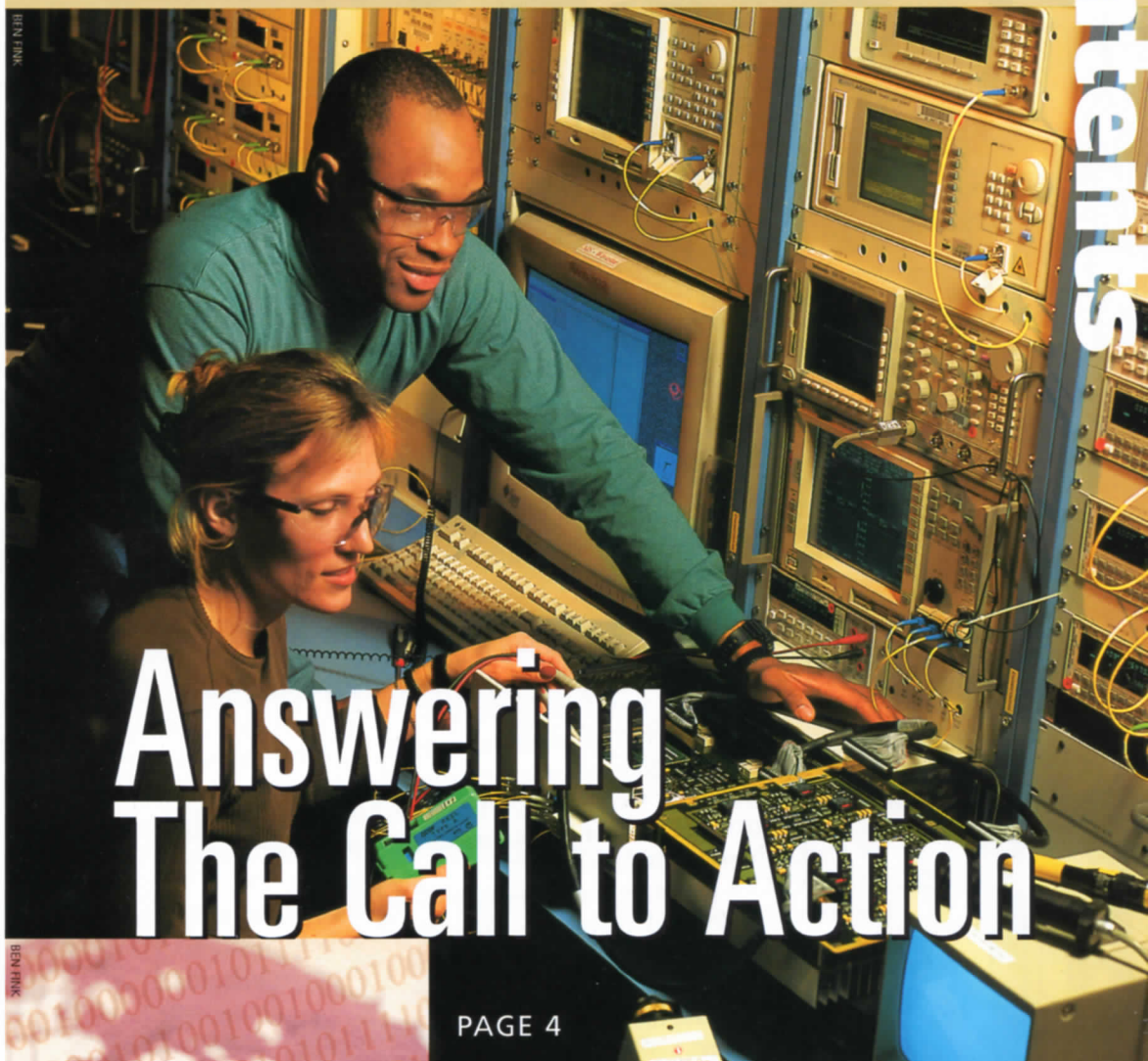
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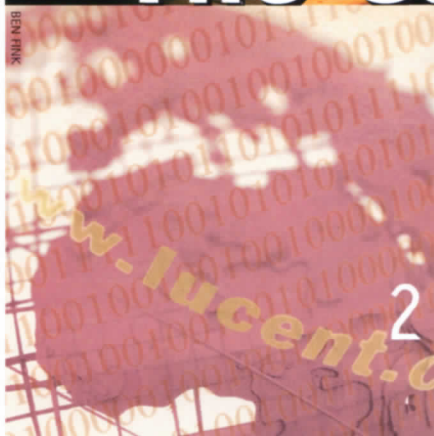


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C O V E R S T O R Y



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FROM THE REVOLUTION

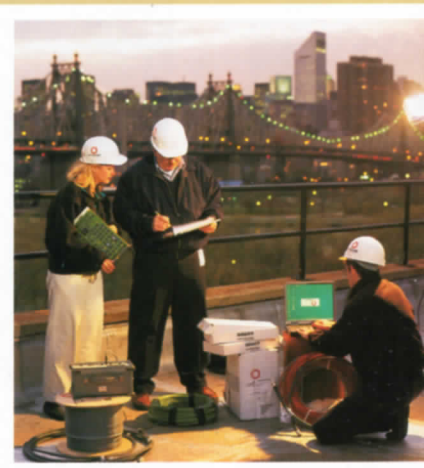
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INNOVATION MASTERS
Future Perfect

10

The Moment of Truth
WIRELESS CTS TEAMS DELIVER

ROGER TULLY



ON THE COVER Across Lucent, teams are responding to
the call to action issued in January by our leaders. **Photography by**
Lauren Brill, Ben Fink, Steve Sherman and Roger Tully.

E-MAIL

FROM THE REVOLUTION

Great Things Happen In Threes

Date: Feb. 4, 2000
From: Microelectronics and Communications Technologies
To: Lucent Magazine



ERICA LASNER

The name of the game is speed, and Microelectronics is playing to win. Within three weeks, Microelectronics Group announced agreements to acquire three companies to bolster its leadership in both integrated circuits and optoelectronics:

→ Ortel, a leading developer of optoelectronic components for cable TV (CATV) networks, and Lucent will help speed the transition of CATV networks to a two-way fully interactive communications medium.

→ Agere, a leader in programmable network processor technology, will move Lucent into the fast-growing market for programmable processing chips for packet-based networks.

→ VTC, a privately held supplier of semiconductor components to computer hard disk drive manufacturers, will help position Lucent to provide a complete line of chips to the expanding data storage market.

"The talent and technology we are acquiring from these three leading companies will further fuel our momentum in two of the fastest growing segments of communications networking," said John Dickson, EVP and CEO, Microelectronics and Communications Technologies.

Keep Your Eyes On the Road

Date: Jan. 3, 2000
From: Microelectronics and Communications Technologies
To: Lucent Magazine

Do you worry about people using cell phones while driving? Well, Lucent is helping to reduce that worry.

The Microelectronics Group has developed a digital signal processor (DSP)-based chip for hands-free cell phone products. The chip helps eliminate the need for drivers to manually dial cell phones, thereby allowing them to keep their eyes on the road. And that's not all — the chip enables cell phones to be heard more clearly.

"We know of no other company that can offer so many simultaneous hands-free cellular phone functions on one DSP," said Doug Daniels, vice president, marketing and sales, CellPort Systems. Colorado-based CellPort will use Lucent's DSP in its universal hands-free system.



the Top 10

Fortune Magazine's definitive report card of corporate reputations gives high marks to Lucent. We're among the top 10 in this year's list of America's Most Admired Companies.

Winners were chosen from 1,000 of the largest U.S. companies based on such attributes as innovation, employee talent, product/service quality and long-term investment value.

Way to go, Lucent! This is one we can all be proud of.

Saved By the Bell(South)

Date: Feb. 21, 2000
From: Service Provider Networks
To: Lucent Magazine

Ever notice that telemarketers always call during dinner? Do you ignore the ringing and risk missing an important call or interrupt dinner?

BellSouth and Lucent have solved the dilemma. The two companies have teamed to deliver *Privacy Director*, a new service that enables BellSouth customers to screen out unwanted calls—even ones that don't show up on Caller ID. BellSouth is using Lucent's flexible Compact Service Nodes to quickly roll out *Privacy Director* across BellSouth's nine-state territory.

"The new breed of BellSouth product managers, like *Privacy Director*'s Angela Newell, is helping to transform the pace of new service introductions," said Karen Candler, Lucent AE for BellSouth Consumer Services. "There's no question that BellSouth's competitive challenge and its need for speed-to-market for end-user services is driving Lucent to entirely new levels of service delivery."

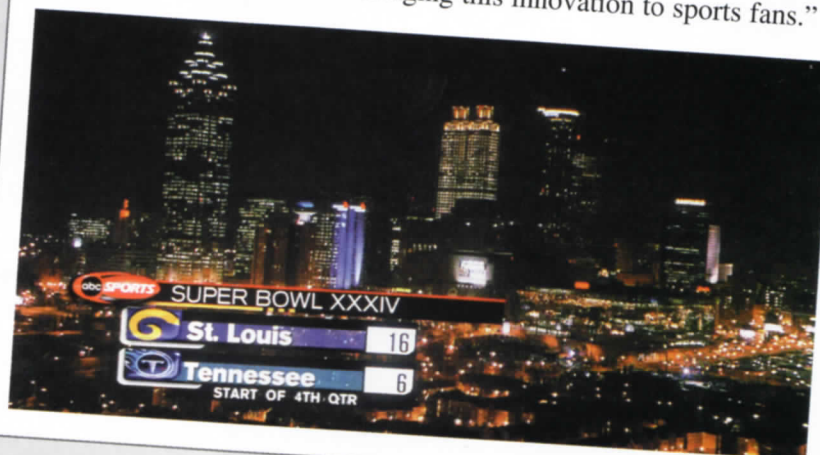
Football Never Looked So Good

Date: Jan. 30, 2000
From: Optical Networking Group
To: Lucent Magazine

Snow, sleet and mild fog couldn't stop Lucent's *WaveStar OpticAir* from transmitting high-definition TV (HDTV) signals at Super Bowl XXXIV.

ABC Sports used the system to transmit signals directly through the air from a remote camera to ABC's control truck. The camera captured "beauty shots" of the Georgia Dome and the Atlanta Skyline. The result was a higher-quality transmission of these images—even during bad weather.

"We are excited to be working with Lucent and this cutting-edge technology to extend our HDTV coverage of the Super Bowl," said Preston David, president of ABC broadcast operations and engineering. "HDTV takes the viewing experience to an exciting new level, and ABC is proud to be the leader in bringing this innovation to sports fans."



ANSWERING

The Call Action

Lucent has swung into action as never before. Across the business we're working to make good on our promise to rectify the problems that resulted in our first-quarter earnings shortfall and to attack broader issues—like execution and speed to market—as well.

"It will take a fresh approach and renewed commitment on the

part of every Lucent employee at every level to get us back on the right trajectory," Lucent Chairman and CEO Rich McGinn said at the all-employee broadcast in January. "We've proven that we can set our targets high and achieve them. That's what we must do again. Beginning today."

He noted three specific reasons for the earnings miss: unexpected demand for 10-gigabit optical products, customer delays in network deployment, and a shift in service providers' software buying patterns.

Of equal concern are more general issues of executing on business plans and the need to speed products to an exploding market—challenges that beset projects in every part of the business. "If I were to seize on one issue that can make the difference between good performance and exceptional performance, it is speed,"

McGinn said.

"Every day counts. Every minute counts.

What was considered extraordinary performance by individual teams in our industry four or five years ago is good performance today. We cannot accept good performance when only outstanding performance will help us succeed."

Success will win us a greater share of the robust global communications market, growing at more than 14 percent a year. That market will approach \$815 billion by 2003. Its growth is being propelled by demand for next-generation networks that deliver new services in any form, creating a wealth of opportunity for Lucent.

"We have wonderful opportunities ahead to grow the business substantially," McGinn told

At the end of January, Lucent people around the world gathered for an all-employee broadcast that was a call to action from Lucent Chairman and CEO Rich McGinn (right) and the senior leaders of our businesses.



BEN FINKE



an employee conference in February. "We're going to see explosive growth as third generation wireless, broadband and optical technologies allow people to stay connected to one another, both personally and professionally. But we have to execute."

Short-Term Solutions

Solutions for the specific problems that caused the shortfall are already taking effect. According to

BEN FRANK, EXCEPT LOWER RIGHT: ERICA LANSNER



Pat Russo
EVP and CEO, Service Provider
Networks



John Dickson
EVP and CEO, Microelectronics and
Communications Technologies



John Drew
EVP and CEO, NetworkCare
Professional Services



Bill O'Shea
EVP and CEO, Enterprise Networks

Pat Russo, EVP and CEO of Service Provider Networks (SPN), Optical Networking will introduce 18 new products this year—seven of them in the 10-gigabit family so in demand. The business is increasing manufacturing capacity for those products and adding trained testers and technicians to test them and turn them up.

Along with plans to hire 290 new technicians and 85 testing personnel, SPN is getting a strong hand from *NetworkCare* Professional Services.

"We trained 32 consultants over a weekend and deployed them on a Monday to support optical deployment," said John Drew, EVP and CEO of *NetworkCare*. "And we're continuing the intensity of that effort, training more than 100 of our consultants to support optical technology. We're prepared to help optical network deployment going forward."

Progress is being made in other areas as well. Network Products is boosting capacity for optical fiber production in Atlanta, as well as in China and Denmark.

Russo noted that Communications Software will

introduce 20 new products this year, implement shorter development cycles and adjust to new purchase patterns.

In addition, previously delayed deployments of wireless networks will occur this year. And, common product and testing platforms will increase our speed to market in this explosive arena.

Taking the right actions should improve performance in these areas to match the bright spots in SPN for the first quarter: our Data Networking group, led by Curt Sanford, grew 75 percent and our DWDM products had triple-digit growth.

Long-Term Goals

Other units are working their action plans as well.

In Enterprise Networks, whose revenues increased 4 percent for the quarter, EVP and CEO Bill O'Shea said the unit is already responding to the call to action by providing e-business support for its customers and by structuring itself on an e-business model.

"We're redesigning our business to win in an e-Business world," he said.

"We'll serve customers even better, dramatically improve our efficiency and increase our profitability."

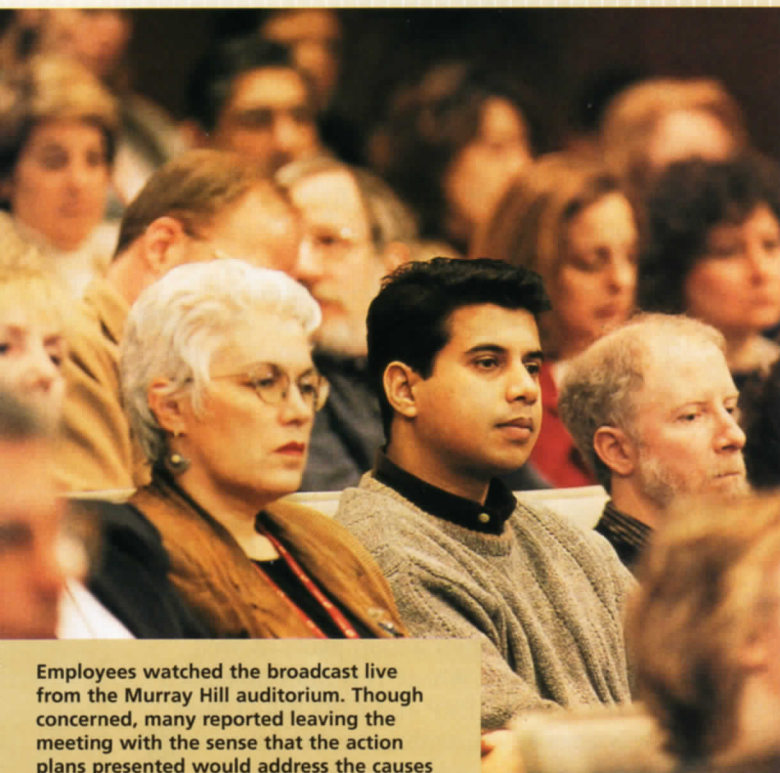
John Dickson, EVP and CEO of Microelectronics

"What was considered extraordinary performance by individual teams in our industry four or five years ago is good performance today. We cannot accept good performance when only outstanding performance will help us succeed."

Rich McGinn • Chairman and CEO

and Communications Technologies, is confident that the group is fundamentally strong. "At 17 percent growth, we had a good quarter, with some of our businesses growing at market rate, some at a rate substantially more than market rate, and one or two that were a bit behind. We're working on some exciting products that will build on our momentum and take us forward into the remainder of the year," he said.

John Drew reported that *NetworkCare* Professional Services had grown 45 percent over the previous quarter. "All of our divisions showed significant strength in the first quarter," he said. "We've booked significant maintenance and management business, had important wins in software, installed dozens →



Employees watched the broadcast live from the Murray Hill auditorium. Though concerned, many reported leaving the meeting with the sense that the action plans presented would address the causes of the first-quarter earnings shortfall.

ROGER TILLY

of systems and made great progress in integrating INS into Lucent."

We Will Prevail

"Clearly, the first quarter shortfall was a setback for us," McGinn said. "But we still have technological strength. Our markets remain robust. We have an unmatched portfolio of systems and services that customers around the world are demanding. And we have the best people in the industry."

"Whenever this kind of situation occurs, it creates a moment of self-doubt," he said. "I urge you to keep your confidence up, to drive that confidence into success, into action, into decision-making performance."

"The same values, the same level of expertise, the same capabilities that got us to this point are embodied in the people in this business."

"It's up to us to make it happen, each of us and all of us." ○

—Suzanne Sidhu

Optical Networking Pumps Up the Bandwidth

Optical networking is one of several key initiatives that will catapult Lucent back on our intended growth trajectory. We're addressing huge customer demand for optical with plans to roll out a series of bandwidth-busting products, while adding bandwidth to our own manufacturing operations.

"The optical business is strong," said Harry Bosco, president of the Optical Networking Group (ONG). "We have 18 new products coming out over the course of this year. The key thing for Lucent next quarter is how well we execute in bringing these new products to market." That shouldn't be too hard given the company's track record — Lucent already has deployed approximately 7,000 DWDM systems worldwide, more than any other vendor and enough capacity to handle nearly two billion phone calls at once. That includes the industry's only 80-channel DWDM system, the *WaveStar OLS 400G*, being trialed by nearly 40 customers; six are preparing to cut it into commercial service shortly.

To address the huge demand for optical products, Lucent is stepping up optical manufacturing plans and installations for the quarter, having added 90 technicians, with another 200 techs and 85 testing personnel on the way.

Much of ONG's success in 2000 is riding on the *WaveStar 10G* product line, next-generation OC-192 optical systems that will enable carriers to zap information along a single wavelength of light on a fiber at the speed of 10 giga-

bits per second (Gb/s). That's fast enough to send 130,000 simultaneous phone calls. Lucent's 10G comes in several flavors, including one designed for local Internet traffic: The new *WaveStar DataExpress 10G* is optimized to carry IP traffic and enables Internet service providers and enterprise customers to build local and regional data networks operating at 10 Gb/s. That's like sending a 2 million-page document every second.

Lucent is already shipping 10G functionality as part of the *WaveStar OLS 400G* and *BandWidth Manager*, and ramping up to ship our stand-alone 10G product in the second calendar quarter to make product plans a reality. "We are increasing our capacity to build our OC192 product by 200% in this quarter, then we will redouble it in the next quarter," said Bosco.

Turning up service for cus-

tomers is also key. To meet this challenge, ONG has trained another 65 *NetworkCare* professionals who can now

turn up networks using the 400G and *BandWidth Manager*. In addition, the company has deployed 50 additional Bell Labs engineers and beefed up network construction teams to follow installations all the way through.

—Loren Talley



Lucent is ramping up production capacity at Merrimack Valley to meet the huge demand for optical products. Matthew Andrews and Mary Lynch are shown testing optical amplifiers as part of the *WaveStar OLS 400G*, Lucent's flagship DWDM system.

STEVE SHERMAN

Quarter's Bright Spots

During the all-employee broadcast on Jan. 27, Chairman and CEO Rich McGinn applauded "a number of heroic efforts by individuals, groups and sales teams" that contributed to the "bright spots" in Lucent's first-quarter results. McGinn highlighted these successes:

➤ **Data networking:** InterNetworking Systems (INS) grew at a record pace—75 percent in the first quarter for service providers. Lucent is the market leader in data networking for service providers, growing three times faster than the market, which is growing more than 20 percent a year. With our next-generation networking products, Lucent ranks No. 1 in frame relay, asynchronous transfer mode (ATM) core and edge switching, ATM access and remote access. "We are aggressively focused on leveraging the integration of the sales channels," noted Pat Russo, executive vice president and CEO, Service Provider Networks. "We're also beginning to see strength in the emerging carrier space with Lucent's introduction of *Stinger* DSL Access Concentrator and *PathStar* Access Server. We anticipate some good ramp-ups in those product areas to help support our efforts."

➤ **Optical networking:** DWDM and optical networking products posted triple-digit growth for the quarter. With the introduction of the industry's only 80-channel DWDM, Lucent continues to reign as the optical networking leader. "This is one of the fastest-growing businesses I've ever been in," said Harry Bosco, president, Optical Networking Group. "The key thing for Lucent in the next quarter is how well we execute in bringing our new optical products to market."

➤ **Microelectronics and Communications Technologies:** M&CT grew 17 percent, despite manufacturing constraints and market shifts to new technologies such as digital modems. "Overall, our business is fundamentally strong," said John Dickson, executive vice president and CEO, Microelectronics and Communications Technologies. "We have more demand than we can shake a stick at, and that's a very, very good place to be."

Lucent achieved double-digit growth in optoelectronic components, fiber optics and power systems. The optoelectronic components business grew more than

80 percent last year, including internal sales. To meet the explosive growth, M&CT is expanding its Breinigsville and Reading, Pa., facilities, which will quadruple current capacity.

Lucent's fiber business is booming with unprecedented demand for optical fiber and cable products. Lucent is second only to Corning, Inc., in fiber production. "We had a number of very positive developments in the first quarter. In our fiber business, we're forecasting excellent year-over-year growth. For the final two quarters, Power Systems should turn in strong double-digit growth," added Dickson. "We're also seeing strong growth in our wireless local area network business based in Atlanta and the Netherlands."



Lucent's new Advanced Software Construction Center (ASCC) in Cary, N.C., provides a high-tech talent pool for expanding the company's software business through R&D. Employees at the ASCC include (from left to right) Theresa Barber, project manager, Jianren Yang, Justin Henager and Coretta Poole, all MTS.

➤ **Enterprise business:** Enterprise Networks' revenues climbed 4 percent, growing faster in all enterprise segments that Lucent supports. The enterprise call center business posted double-digit growth and revenues outside the United States rose 10 percent.

"There's no lack of opportunity in our market—not for Lucent as a whole and not for the enterprise segment," said Bill O'Shea, executive vice president and CEO, Enterprise Networks.

➤ **Professional Services:** *NetworkCare* Professional Services grew 45 percent in the quarter. About 450 consultants were added to keep pace with business demands. "We believe we will continue growing at this current rate year over year," said John Drew, executive vice president and CEO, *NetworkCare* Professional Services.

Brighter Future Ahead

Summing up the milestones of fiscal 1999, McGinn said: "I point to these bright spots, not only because they are successes, but also they demonstrate the spirit and teamwork we need to address the issues we face. We have excellent people, and we have the chance to take the actions necessary to get us back on track."

—Linda Crockett

FUTURE

Perfect

Lucent is not only building next-generation networks. We're also building something equally important, even though it isn't made of silicon, fiber or software. It's a next-generation, high-performance operating environment. Ultimately, it could contribute as much to our success in the marketplace of the new millennium as our technology and products will.

Agility, creativity, innovation and speed characterize this new environment. Organizations will be flatter and more democratic, more like networks than hierarchies. Within them we'll create a can-do culture where new ideas bubble up everywhere and grow to maturity.

Making that vision real is going to require change. "Working faster and harder doing the same things is not an effective way to create this new environment," said Lucent Chairman and CEO Rich McGinn. "We have to find new ways to reinvent ourselves and raise our performance."

How important is it that we make the necessary changes?

Change Management Director Sue Klepac said operating environment can have a direct impact on results. She points to a recent survey of business leaders in 12 high-performing companies. Most said their company's culture had helped performance. Likewise, most leaders in 10 lower-performing firms placed some blame on cultural issues.

Practically all of the leaders agreed that culture plays an important role.

A Good Start

Achieving a high-performance culture has been a priority for Lucent since it was created in 1996. In our

first year, senior leaders commissioned a study by Delta Consulting Group to discover what characterized the cultures of high-performing companies similar in size to Lucent, including Alcoa, Chrysler, Compaq, Disney, Hewlett-Packard, Intel, Nokia and Sun Microsystems.

What these giants have in common, the research found, includes a growth mindset and crystal clear growth strategy; sharp focus on the core business; competitive innovation; a willingness to "cannibalize" products; and close partnerships. In addition, the high-performing businesses all emphasize speed, structural simplicity, semi-autonomous business units, high-quality people, and a global focus.

Crystallized as the GROWS initiatives, these findings began to be implemented across Lucent's business. And, according to financial measures as well as 1999 VIP survey results, we've made progress. We've taken market share and increased our international talent base. We've improved our speed to market and are ahead of other high-performance companies in supporting a workplace that's open, supportive and diverse.

However, we lag key companies in productivity. Customer satisfaction results are mixed. And, according to the VIP, our working

Core team members (below) Gary Volland, Claudette Lugano and Rebecca McCluskey unmask the elements of a high-performance operating environment for Lucent's Innovation Masters. The Performance Management Challenge Team (right), led by Joey Gigliotti, Ralph Craviso and Karen Simpson, plans to share tips for best practices in performance management.



relationships are not what we would like them to be.

Mastering Innovation

One group that has volunteered to take on some of these challenges is the Innovation Masters. Championed by Lucent Vice Chairman Ben Verwaayen, Innovation Masters is a grass-roots organization formed two years ago. Its 800 members are committed to taking personal, individual action to help create a high-performance operating environment.

Ten teams of Innovation Masters have begun to tackle challenges sponsored by a group of Lucent officers: Dana Becker Dunn, Martina Bradford, Bill Carapezzi, Ralph Craviso, Vicky Farrow, Dave Johnson, Jim Lusk, John Pittman, Rich Rawson and Larry Kittelberger, along with Verwaayen.

The challenges presented by the officers vary. Knowledge sharing is a subject of special interest to Rich Rawson, Lucent's general counsel, and is being applied in Lucent Law.

"I would like to see everyone in Lucent embrace a 'knowledge ethic' that drives each of us to learn from our experiences, capture that

for information. The Innovation Masters team I work with is exploring ways to enhance and support those efforts."

That team, led by Judy Fortunato, transformation strategist for Enterprise Networks, is setting up a Virtual Knowledge Institute to make full use of the Knowledge Universe Web site.

"We want to put in place a set of knowledge professionals in each business who will be experts in finding the information that's stored in Knowledge Universe," Fortunato

management, and share what they learn across the business.

Rosemary Golden, who manages the VIP survey and is a challenge team member herself, provided VIP performance management summary results for several large teams for the group to study. "We pored over the material," said Karen Simpson, CFO business performance manager, who co-chairs the Innovation Masters team with Joey Gigliotti, tax operations vice president.

"We intend to understand the

"We have to find new ways to reinvent ourselves and raise our performance."

Rich McGinn • Chairman and CEO

said. The group's first step is to identify Knowledge Leaders—senior executives willing to champion the cause. Those leaders will identify individuals in each business who will point their colleagues to the shared solutions available in the Knowledge Universe.

"Our benchmarking convinced us that this is a workable solution,"

Fortunato said. She noted that for two years Merck has used a similar system, which the company credits with saving it billions of dollars in revenue and putting it 18 months ahead of its market roll-out plans.

"Setting up a way to share knowledge across a large company can impact the bottom line," Fortunato said. "We're all working on projects, coming up with solutions. If we can share those solutions, we won't have to reinvent the wheel."

Measuring Performance

Ralph Craviso, vice president, Workforce Effectiveness, champions a team intent on engaging the entire organization in using performance management tools effectively.

"We want everyone in Lucent to receive the support and feedback needed to ensure we are all working to our highest potential," he said. The group's goal is to distill best practices in performance

reasons for the results by conducting interviews and focus groups," Simpson said. Team members believe that disseminating what they learn will influence performance management and, ultimately, performance.

"We'll know we're making progress when all Lucent people feel they are being coached, can deliver and receive feedback, and can fully understand the link between pay and performance," she said.

One Spark

The Innovation Masters community has grown quickly from a core group with big ideas to hundreds of individuals who together have the clout to get things done. Their slogan, "It takes one spark," reflects their faith that individual employees can see opportunities for change, and with courage and support, make change happen.

"I've been a change agent for many years," Verwaayen said, "and I know that every individual can make a difference. We each have a choice to make—to be passive in an environment where change is needed, or to participate in the creation of something new, a new culture where we all feel re-energized and motivated to give our best every day."

[For more on Innovation Masters, visit grows.web.lucent.com.]

— Suzanne Sidhu



PETER VIDOR

learning, share it and apply it to new situations," Rawson said.

"We all have immense knowledge in our heads, in our file cabinets and on our hard drives. If we distill it and share it, we'll all benefit. Our CIO organization has made a good start in setting up Knowledge Universe, a Web-based repository

Product sales plant the Lucent flag. But delivering means deployment. Executing fully on the customer's behalf cements the customer partnership. For Lucent's Customer Technical Support organization, deployment means getting a system up, optimized and running. Lucent's wireless CTS teams deliver...

At the Moment of Truth

With its worldwide wireless deployment business growing at a rate of 30 percent a year, Lucent's Customer Technical Support (CTS) organization is all-out committed to turning sales into deployments.

"In CTS, we call a delivery date a 'moment of truth,'" said Ed Stredde, CTS vice president for the Caribbean and Latin American (CALA) region. "This level of emphasis highlights the importance of delivering, and the sacredness of our commitment to the customer."

Stredde and his peers—Jerry Prestinario and Talmage Bursh, vice presidents, North America, and Ray Pennotti, vice president, GSM customer support—lead the CTS teams that install and troubleshoot for wireless service customers in 40 countries worldwide.

"In the competitive wireless industry, customers want speed to market," added Stredde. "And, frankly, we've won a reputation for being faster than competitors' service teams and more certain to do the big, complex jobs right."

The job isn't limited to installing switches, such as the fast-evolving 5ESS system, wireless base stations in varied technologies (CDMA, TDMA or GSM), or software (such as intelligent networking) to ensure network features deliver value that a local market wants.

Doing all that would be enough for a market leader. But CTS does more: Customers often specify their network plans broadly, with Lucent's CTS team doing all the follow-through—from engineering plans through site acquisition to tweaking and optimizing the radio performance.

Requests for special professional services, such as network audits, re-optimizations or refinements of work done by previous suppliers, are increasing by about 50 percent a year. CTS people team up with Lucent *NetworkCare* Professional Services in many cases. CTS increasingly →





CTS success in helping AT&T change out old equipment and rapidly expand its PCS capacity led to an additional \$1 billion in new business for Lucent in 1999. Here CTS is part of the team supporting the customer in the New York area: account executive Andrea Lynn Stone (left); CTS program manager, Bob Louis; and installer, Tony Simonetti.

contracts its services under the *NetworkCare* brand. The partnering also extends to development groups as well, such as when special software is required to bring off a customer's deployment.

For the six customers below, CTS delivered at the moment of truth.

World's First CDMA International Roaming

Global roaming means using your home phone to phone home from anywhere. Shinsegi Telecom in South Korea wanted to provide global roaming for its CDMA subscribers traveling in other regions where high-performing CDMA networks provide a major part of the world's cellular infrastructure.

→ **Moment of Truth** Thanks to CTS, Shinsegi was the first in the world to enable its CDMA subscribers to carry their phones abroad and use them in another carrier's CDMA territory. Starting Dec. 22, 1999, Shinsegi customers have been able to roam in Hong Kong, receiving calls from Shinsegi's Korea network.

In the weeks ahead, Shinsegi and CTS will extend global roaming to Australia, China, Japan, Thailand and the United States.

"Global roaming for CDMA isn't just a technical challenge," said Mike Naumann, customer team leader with Shinsegi. "It took a lot of software development work to get the technical details right, including billing—much credit goes to our Naperville software developers. And it took round-the-clock personal dedication by our team to coordinate testing among multiple carriers and facilities around the world."

Replacing the Engines in Flight

AT&T Wireless Services learned early in 1999 that a supplier it was counting on couldn't satisfy its needs. The timing couldn't have been worse, as the customer's subscriber base was growing through the roof.

Lucent saved the day by installing equipment at sites all over the United States, swapping out the previous supplier's equipment in some markets, and supporting AT&T Wireless Services (AWS) as a new entrant in other markets.

→ **Moment of Truth** Though Lucent came aboard the project well after the customer's timetables were set, we still met the original delivery target—a feat by any industry

standard, and a triumph for the productive prowess of Lucent's Columbus factory. CTS tapped both its own people and installers from around the company.

The Lucent team did whatever was required, even hooking up base stations in North Carolina to a switch in Cleveland. Said Mary Justl, customer program director, "I'm proud that Lucent was able to support AWS in meeting their critical market needs."

Shinsegi Telecom in Korea became the world's first carrier of advanced digital wireless services to provide global roaming in the CDMA technology. Mike Naumann (second from right), who leads the CTS team for Shinsegi, works with his customers in the Network Switching Center in Pusan, South Korea: Namhoon Kim (left), Inyoung Choi, Jinghong Kim and Kyunchul Shin.



First Fixed Wireless CDMA Network

When the government of India opened its telecom sector to competition, Tata Teleservices jumped in with both feet. The company won the bid to supply not only wired services in the state of Andhra Pradesh, population 80 million, but also a fixed wireless network to provide the same services without any copper loops.

→ **Moment of Truth** Hyderabad, India, became the site of the world's first fixed wireless CDMA network, now serving 13,000 people and growing at 1,500 per month, a rate far in excess of 100 percent per year.

"When Tata turned to Lucent for wireless, it also turned to us for deployment," said Anil Bhala, CTS project manager. "We had to ensure that non-Lucent components in the network delivered quality and operational features comparable to wired."

The result was so good that another Indian carrier, Shyam Telelink, and the India department of

telecommunications itself have just signed on to purchase fixed wireless networks from Lucent.

Invading the Heartland of GSM

Though Lucent is doubling its wireless business in the GSM standard year after year, the GSM market is still dominated by competitors. This is especially so in Europe, where Portuguese wireless operator Telecel was the world's second carrier ever to launch GSM services.

When Telecel became unhappy with an incumbent supplier's customer support 15 months ago, however, it turned to Lucent.

→ **Moment of Truth** CTS replaced 200 old cell sites, added 100 new ones and is on track to establish 400 sites throughout the Lisbon area and central and northern Portugal for Telecel.



Telecel serves a sophisticated and demanding wireless market in Portugal, where it was the second provider in the world to debut the GSM wireless technology that is now dominant in Europe and prominent in many other markets. Here in front of Telecel's headquarters in Lisbon, Armando Ferreira da Silva (center), network implementation manager for Telecel, is flanked by Lucent CTS team members Carla Souza Pereira, project scheduling and controls coordinator, and Eduardo Melo Aires, project scheduling and controls manager.

The CTS team's performance opened the door for a 350-site win with another Portugal GSM carrier, TMN, and wireless intelligent network wins elsewhere in Europe.

"This is a sophisticated market in telecom services," said Scott Cymber, director of customer support and service. "CTS's work with Telecel helped wake Portugal up to Lucent, and in just a year our

company has grown to a 65-person team selling and delivering not only GSM and other wireless solutions but also billing systems, business systems, messaging and so on."

Come Rain or Come Shine

In one of Brazil's rainiest summers ever, just ending now, Cheryle James and her integration team have overcome flooded equipment rooms and lightning strikes to deploy six switches and 182 wireless cell sites in Sao Paulo.

Working with Lucent installers, they've activated fixed wireless CDMA service in the nation's largest state and city, a vast metropolis that's home to 20 million persons today and growing rapidly.

→ **Moment of Truth** "In three days from start to finish, we got the first switch up to permit a ceremonial call to the company president at a board meeting," commented James.

The service provider, Vesper SP, is counting on CTS to give it immediate revenue-generation from its planned purchase of nearly a half-billion dollars in Lucent equipment expected over five years.

Telefónica, Strategic Alliance

With 300 million subscribers, Telefónica of Spain is one of the world's top 10 service providers. More than half its subscriber access lines are in Latin America. In Brazil and Central America, Lucent is Telefónica's strategic vendor. Since October 1999, CTS has installed 126 cell sites to serve El Salvador's 6 million citizens, 87 sites to serve Puerto Rico's

4 million and 114 for Guatemala's 11 million.

→ **Moment of Truth** To meet a delivery date, Lucent's installation team chartered a 747 jet with cargo space adequate for 10 base stations.

Lucent's deployment team worked elbow to elbow in Telefónica's effort to launch service on time to win rapid market-share growth.

The team effort is driving the success of intelligent networking features, such as one that makes it easy for friends and relatives in the United States to fill and replenish wireless prepaid accounts in El Salvador. ○

—Blanchard Hiatt

Where should Lucent be focusing in 2000?

RICK FRIEDMAN



Focusing on customers, speed, innovation, revenues and competitors resonates with the key values driving our culture. We should never lose sight of the Lucent values because they are equally important: mutual respect, teamwork, quality, personal accountability, candor and integrity. Without these values balancing out our behaviors, we'll never achieve world-class leadership.

Joseph Ponti

director,
Optical Networking Customer
Technical Support,
Service Provider Networks,
North Andover, Mass.

R. SCOTT MARTIN



Let's stop thinking of Lucent as only the organization where we happen to work. Customers, stockholders, partners and suppliers should only see one company. Everyone needs to focus on improving what we do, and how we do it, to make Lucent a better company. "Team" should stand for "together each achieves more."

Rob Bigsby

systems engineer,
NetworkCare Professional Services,
Spring, Texas

DENNIS BRACK



It's important for Lucent to be customer-focused. This means more than structure. It means planning and delivering consistently on end-to-end solutions that ensure the customer experience is truly excellent. Our customers should see one Lucent—from our proposal to consolidated billing programs—operating seamlessly and flawlessly.

Patsy Stevens

director, Sales Support
Government Solutions,
Enterprise Networks,
Washington, D.C.

ROBIN NELSON



Lucent needs to shift gears and turn employees' focus to five targets: flawless and speedy execution; a more competitive attitude; be decisive and avoid over-analyzing issues; every employee is an owner in the company and needs to act like one; assist each other in getting the job done and having fun.

Bharat Desai

account manager,
GTE Wireless Customer Team,
Service Provider Networks,
Alpharetta, Ga.

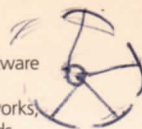
JOHN MEYER



Besides the need for speed, maintaining quality and reliability are equally important. We need to think of innovative ways to perform tasks faster and more cost-effectively without sacrificing quality. We need to keep a close eye on competitors, but never lose sight of what we have to do as individuals and collectively as a company.

Ozcan Yilmaz

system tester,
SESS Application Software
Development,
Service Provider Networks,
Hilversum, Netherlands



LISA QUINONES



Each organization and every person should learn from 1999 and look forward to where we need to be in 2001. We must do our best every day to turn around our performance in 2000. If we renew our commitment to do our absolute best, no matter what our job, we can't help but be the best in the industry.

Kathryn Chance

business assistant,
Network Solutions,
Service Provider Networks,
Berkeley Heights, N.J.

LISA QUINONES



Software is the heart of our products and solutions. Lucent isn't in the communications business to provide customers with boxes, but total networking solutions. Our market leadership depends on improving software quality, reducing time to market, lowering development costs and delivering open software components that work with customers' deployment frameworks.

Qingwang Hao

member of technical staff,
Communications Software,
Service Provider Networks,
Warren, N.J.

LARRY HAMILL



Lucent needs to maintain the focus on quality. In the race for speed, there is a temptation to short cut quality processes. Speed will be remembered tomorrow; poor quality will leave a lasting impression.

Tom Lester

member of technical staff,
Wireless Network Operations
Management Systems,
Service Provider Networks,
Columbus, Ohio

