



**MODEST MAN** AMD's low-key CEO is teaching his employees to embrace rapid change and uncertainty as the chip company grows larger.

## CHIEF EXECUTIVE

### Use humility as a weapon.

HECTOR RUIZ, CEO, AMD

Since Hector Ruiz took over as AMD's CEO in April 2002 the microprocessor-maker has increased its market share and is now spoken of in the same breath as Intel, which is about six times larger. The unpretentious Ruiz would be the last one to call himself "great," and in that may lie his true great-

ness. Humility is one of his most powerful tools. Three more:

◆ **Working at warp speed.** We have gotten larger and more complex. By definition that means we're going to make some mistakes. I'm much more comfortable in an environment when I know that's going to happen. That means we're learning. An aura of confidence begins to develop around people who can make mistakes and learn and go forward. At

◆ employee meetings I say, "Please, go get speeding tickets. I don't want you to get parking tickets."

◆ **Embrace ambiguity.** Part of my job is to make people comfortable with change and ambiguity. That sounds counterintuitive. A lot of people think CEOs have to be absolutely crisp and perfect on what they want. Quite often my people push back. I don't like spelling out exactly what people need to do. I think that boxes them in.

◆ **Think more.** Sometimes I just pick up the phone and call someone who is going to make me think. This week I called [an Internet executive] and talked to him about some of his ideas. I need to understand people like him who are thinking differently about the future, because I can easily get to thinking that the next PC just needs to be a little faster or a little cheaper, and miss the whole thing.  
—David Kirkpatrick

currently thrashing Intel in the marketplace (see box below). Judges may wonder exactly what manner of monopolist Intel could be when AMD is gaining share in servers, desktops, and notebooks; when CEO Ruiz has stated publicly that the 37-year-old company "is in the strongest position we've ever been in"; and when AMD's operating margin was, as of the first quarter of 2006, actually higher than the alleged monopolist's. Still, AMD argues that it should be doing even better, and that it is still being artificially excluded from the crucial market for enterprise-quality desktop and notebook computers.

In the days ahead we'll be hearing much about this suit—the most important antitrust case since *U.S. v. Microsoft* in 1998—and about related probes of, or actions against, Intel now taking place in the European Union, Japan, and Korea. For readers of this magazine, claims that Intel competed unlawfully have an intrinsic fascination; Andy Grove, who stepped down as Intel's CEO in 1998 and as its chairman last year, has been saluted on our cover no fewer than eight times since 1993, in-

cluding this past December, when we extolled him as "America's greatest student and teacher of business."

Yet the suit is commanding the attention of the global business community for another reason too. It's seen as a bellwether for a mega-issue roiling competition law today: Assuming for the sake of argument that Intel did do what AMD alleges, is that illegal? For while there is wide consensus among antitrust experts about the harmfulness and, consequently, illegality of collusive activity among competitors—e.g., cartelization, bid-rigging, price-fixing—there is no comparable agreement about conduct by one very big competitor acting alone. What's still largely undefined is precisely when tactics by such a player cross the line from vigorous competition into unlawful preservation of a monopoly (the American term) or abuse of dominance (the European term). The ambiguous outcome of the U.S. government's case against Microsoft—whose practices were condemned, but narrowly, and punished, but lightly—has spurred more debate than it has quelled. "Is there really a place in competition law," asks Intel general counsel Sewell, "that says you

## HOW AMD MADE IT A FIGHT

BETTER CHIPS AND AN EXPANDED PRODUCT LINE PUT **ITS LONGTIME ARCHENEMY** ON THE DEFENSIVE.

**BY DAVID KIRKPATRICK** AMD is going after Intel in court, but it has already struck where it really hurts. After 20 years of unequivocal Intel supremacy, the market for x86 microprocessors has finally become—and for the foreseeable future will remain—a two-horse race. Says a very senior executive at a major PC company: "AMD is here to stay."

Each of the top three PC makers is now a customer. AMD's biggest recent victory was landing Dell. The largest PC maker decided in May to end its exclusive relationship with Intel and put AMD's top-of-the-line Opteron processors into some servers. In early August, IBM announced a new line of Opteron-based servers. AMD now powers more than a quarter of all x86 servers worldwide. Hewlett-Packard (the PC industry's No. 2) and Sun already sell AMD machines across their

product lines. And Lenovo, the No. 3 PC maker worldwide, already a big AMD customer in China, plans to announce in August that it will start using AMD chips in a line of business desktop PCs for the U.S.

AMD CEO Hector Ruiz isn't declaring victory, though. While the company's share of x86 industry revenue has risen in three years from 8% to nearly 18%, according to Mercury Research, Ruiz says AMD needs 30% to stay healthy. But he is optimistic. "Now, of course, the big thing for us," he says, "is to get Michael [Dell] to go beyond servers." Don't think it couldn't happen.

AMD has had surges in the past, but this one is different. It used to sell only fast proces-



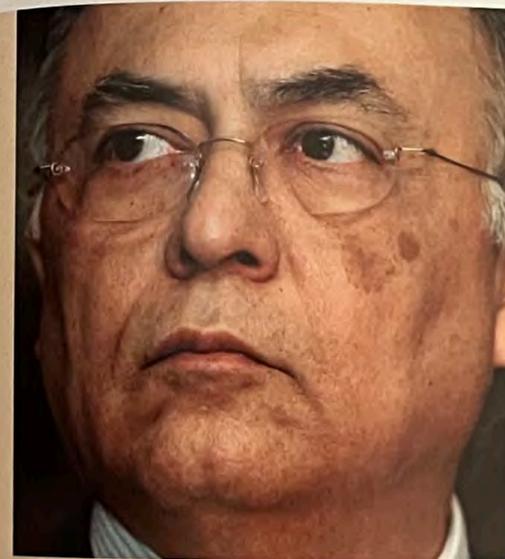
INTEL'S Otellini is betting on the Core 2 Duo chips.

sors for consumer desktop computers. Now it has chips for desktops, notebooks, and, most important, servers, the part of the business where profit margins are highest. According to PC semiconductor analyst Dean McCarron of Mercury Research, when AMD had only one strong product, Intel could easily beat it back with price cuts, funded with profits from its other businesses. McCarron says, "AMD used to be a weed to be chopped down every now and then. Now it is much deeper in the market."



compete as hard as you can until you get to X percent [market share], and then you have to back off? And, fundamentally, is backing off good for consumers?"

The one practice that has generated the most debate among scholars and regulators in recent years is the very one at the center of AMD's case against Intel: so-called loyalty rebates. These arise when a dominant firm offers rebates to business customers who fulfill 80%, 90%, or even 100% of their needs with that firm's products. These incentives can be so great as to amount to an offer the customer can't refuse. The rebates exclude competitors, yet the rebated prices may be well above cost and, therefore, not "predatory" by any traditional definition. Do such rebates ultimately hurt the public or benefit it? The U.S. Federal Trade Commission, the U.S. Department of Justice, the U.S. Antitrust Modernization Commission, and the European Commission's Directorate-General for Competition had all been grappling internally with this question at the time AMD filed its complaint in Delaware, teeing up the issue for a U.S. district court and eventually, some predict, the U.S. Supreme Court.



AMD'S Ruiz pushed to capitalize on Intel's mistakes.

**AMD BROKE OUT** of its box partly by taking advantage of an Intel misstep. In the late 1990s Intel started pouring hundreds of millions of dollars into a new type of processor not based on x86 technology. Eventually called Itanium, the chip was aimed at high-end computing. It would process bits—the ones and zeroes of data—in chunks of 64 rather than 32, as x86 did. It also had the virtue of being uncopyable by AMD, which had won the right to use the x86 architecture in a series of court battles. But Itanium had a big disadvantage: Applications written for x86 ran on Itanium only in a clunky "emu-

mid-2004, Intel was forced to copy AMD, announcing its own 64-bit version of x86, now the backbone of its entire product line. Meanwhile the Itanium business has remained lackluster.

Sean Maloney, Intel's new executive vice president for sales and marketing, says, "We left the door open because we had been used to our competitor dropping the ball regularly. They picked up their game, so we picked up ours." Intel's financial results in the most recent quar-

**AMD'S SUIT ARRIVES** at a critical moment in the long-standing blood feud between AMD and Intel, which have been fighting each other in court for most of the past 20 years. (At this point AMD is Intel's only meaningful competitor in the market for x86 chips.) In 2003, AMD launched two chips, the Opteron for servers and the Athlon64 for desktops, that are widely seen as having marked technological advantages over Intel's offerings. Though AMD's performance edge in those markets will be challenged as Intel phases in its new Core 2 Duo generation of chips, the interlude of technological superiority has given AMD an opportunity to change forever its status and reputation in the industry.

Each company incorporates this recent history into the idealized narrative it is telling in court. AMD says Intel stepped up its wrongdoing when it saw itself falling behind technologically in 2003. No longer able to win by playing fair, it played dirty. Consumers were hurt by being forced to use higher-priced, inferior technologies. (The touchstone of modern antitrust philosophy is that the law protects competition, not competitors; i.e., it is the

ter were abysmal (profits were less than half what they'd been a year earlier), but its product strategy is aggressive. In July it launched a range of new products it calls Core 2 Duo. Industry website CNET called it "the company's biggest product launch since Pentium in 1993." These two-processor 64-bit chips will go into desktops, notebooks, and servers. For now they outperform AMD's alternative products, though Intel's nemesis claims its own new designs will emerge shortly.

Meanwhile, both companies are taking drastic steps to improve competitiveness. Intel CEO Paul Otellini said in July that the company would lay off 1,000 managers. He's also waging a price war and building inventory—AMD's stock has suffered as a result, dropping from \$42 in March to below \$20 in August. (In the same period Intel has slid from \$20 to \$17.) AMD in late July announced its biggest acquisition ever, of chipmaker ATI for \$5.4 billion. Ruiz says that will let AMD enter new businesses, like consumer electronics.

As the two chipmakers compete, they will speed innovation and cut prices. Expect your PC to get better and cheaper.



# The Best Managers

Talent, vision, and a gift for knowing a golden opportunity. It all came together last year for these execs

## JEFFREY IMMELT

General Electric

NOBODY QUITE KNEW what to expect of Jeffrey R. Immelt when he took over the top job at General Electric Co. in September, 2001. GE had long thrived under the legendary Jack Welch, making it tempting to expect more of the same from his young successor. But Immelt, 48, has put his distinct imprint on GE's culture and strategy. Moreover, he has done it through a period of intense uncertainty—from the September 11 attacks through new regulations and a shaky economy.

Through it all, Immelt has stuck to his agenda for transforming GE in the 21st century. That has meant creating a much more customer-driven, global, and diverse culture—one that spawns innovation, embraces technology, and has the goods to grow internally in a slow-growth world. He has shaken up the portfolio, too, by edging out of lower-return

businesses like insurance with the spin-off of Genworth Financial in 2004, while buying stronger plays such as Vivendi Universal's entertainment assets and Amersham PLC, a British diagnostics and biotech giant. He even broke up the massive and often opaque GE Capital into four transparent businesses. "The biggest challenge is continuing to drive consistent growth in a world that is more volatile and has less economic growth," says Immelt.

It won't be easy. While the company forecasts 2005 earnings growth of up to 17%, 2004's growth is expected to be only 5% to 7%. Still, strong cash flow has Wall Street believing that Immelt can bring back the good times. The stock price was up more than 19% through late December. As Immelt proceeds with his vision of where to take GE, a growing number of investors are coming along for the ride.

### KEY ACCOMPLISHMENTS

- ▶▶ Repositioned GE's portfolio with major acquisitions in health care, entertainment, and commercial finance.
- ▶▶ Created a more diverse, global, and customer-driven culture.



## STEVEN REINEMUND

PepsiCo

SODA AND POTATO CHIPS don't exactly sound like a recipe for success in today's weight-obsessed, low-carb world. But Steven S. Reinemund has built PepsiCo Inc. into much more than a purveyor of junk food standards. Through constant innovation and savvy moves like the \$14 billion acquisition of Quaker Oats Co., Reinemund, 56, has created a nimble, \$27 billion food and beverage giant.

Every year, PepsiCo adds more than 200 product variations to its global portfolio of brands that includes Frito-Lay snacks, Pepsi-Cola sodas, Gatorade sports drinks, and Tropicana juice. Many are aimed at wooing ethnic tastes as well as satisfying health-conscious consumers.

But Reinemund's greatest achievement is in developing people more than products. While some rivals are mired

in management challenges, PepsiCo has developed one of the deepest executive benches in Corporate America. Moreover, the diversity of that bench has proved to be an asset in tapping new markets. As Reinemund puts it: "To be a leader in consumer products, it's critical to have leaders who represent the population we serve." He personally takes a major role in mentoring and teaching staff—both formally and informally. He also demands that everyone in the senior ranks do the same.

The payoff: consistent

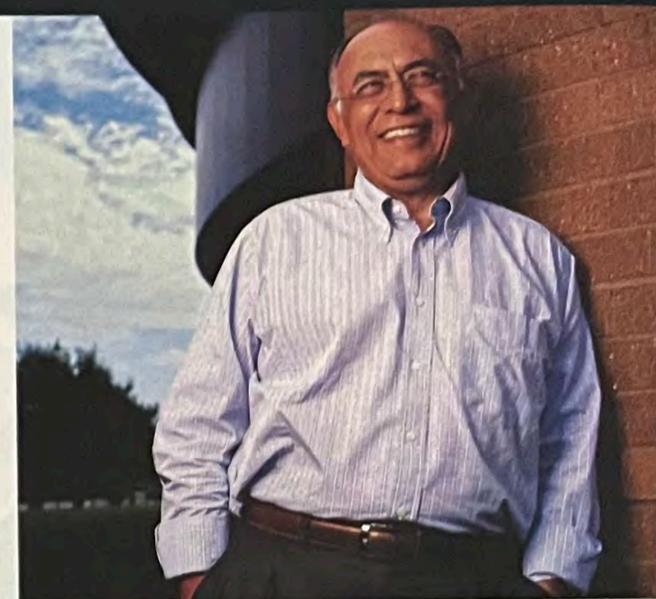
## HECTOR RUIZ

Advanced Micro Devices

AS A CHILD IN PIEDRAS Negras, Mexico, Hector Ruiz wanted to be an auto mechanic. As president, chief executive, and chairman of Advanced Micro Devices Inc., Ruiz has become Mr. Fix-it. When he took over financially strapped AMD in April, 2002, from the flamboyant Jerry Sanders, few people knew who he was, despite his long tenure at Motorola Inc.

Nevertheless, the soft-spoken executive has put AMD in the black for the first time since 2000. He's giving larger competitor Intel Corp. fits with AMD's hot-selling Opteron server and Athlon 64 desktop chips, and he has set the agenda for next-generation PC designs. "We're giving customers real choice," Ruiz says. It's no wonder AMD's shares rose 50% last year through late December.

Now, Ruiz, who has a PhD in quantum electronics, is loading his sling for more shots at Goliath Intel. After grabbing 10% of the mainstream server chip market, Ruiz is pushing



company engineers to launch multiple-core chips, which shrink several processors into the space of one, by the middle of 2005. Getting the superefficient, low-heat chips out on time would put AMD at least six months ahead of competing Intel offerings. Never one to think small, Ruiz has also set a goal to outfit 50% of the world with

sub-\$200 PCs by 2015.

Ruiz could go a long way toward fulfilling AMD's promising outlook by cinching another big deal he has labored over: Getting his Texas neighbor, Dell, to pick up AMD products after years of being an all-Intel shop. If Ruiz manages that, he could put AMD in the chips for a long time to come.

### KEY ACCOMPLISHMENTS

- ▶▶ Demonstrated the first mainstream dual-core chip, offering superefficient processing with low power consumption and heat dissipation.
- ▶▶ Launched an initiative to sell low-cost PCs in developing countries in a bid to bridge the widening digital divide.



double-digit earnings growth and solid sales at a time when many of the company's staple products are under threat from fears over childhood obesity and other health concerns. PepsiCo has outperformed Coca-Cola Co. in boosting sales and has logged earnings growth that is more than double that of its rival. The company is expected to report 17% growth in earnings per share in 2004. One reason is the increasing strength of its operations in foreign markets such as India and China, thanks largely to the talent of local teams. PepsiCo's efforts to quench

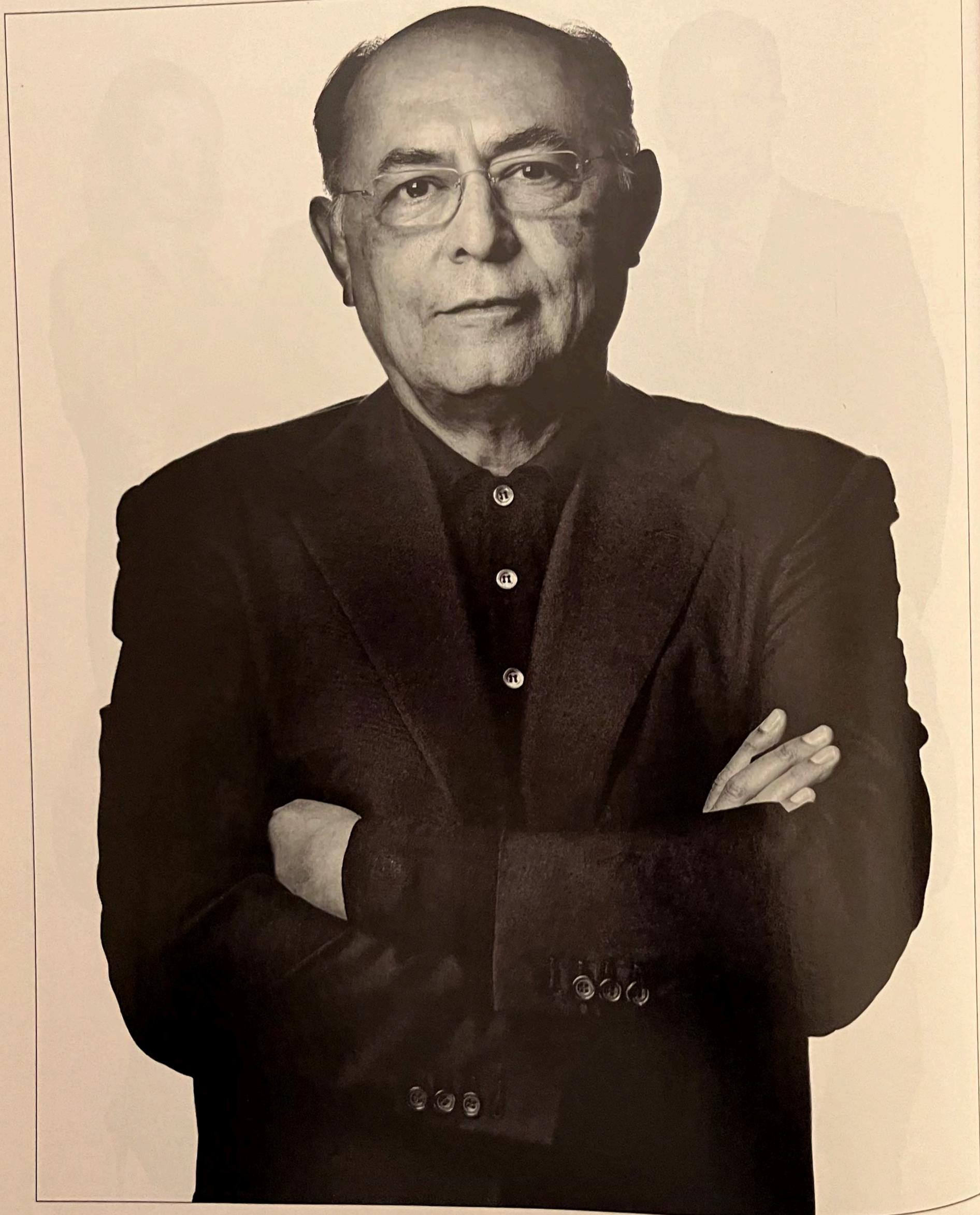
consumers' growing thirst for noncarbonated beverages also helped boost the bottom line. For Reinemund, the key is making enough new bets to keep customers coming back while delivering strong shareholder returns.

### KEY ACCOMPLISHMENTS

- ▶▶ Developed a strong and diverse leadership bench that has helped PepsiCo tap new markets.
- ▶▶ Attained consistent double-digit earnings growth through product innovation and smart marketing.

(CLOCKWISE FROM LEFT) MICHELE ASSELIN/CORBIS; WYATT MCSPADDEN; MICHELE ASSELIN/CORBIS

PORTRAITS OF POWER



**HECTOR RUIZ, 60, CEO of Advanced Micro Devices.** *A calm and determined leader, Ruiz has led his company's challenge of mighty Intel in an ongoing antitrust suit and in the microprocessor marketplace, where AMD has made big gains: It now commands 25% of the high-margin x86 server business.*

FB: HECTOR.

HECTOR, A SUPER INTERVIEW! ALOT OF GOOD INFORMATION

# THE ROADRUNNER

MOTOROLA INC.  
Semiconductor Group

A MOTOROLA WEEKLY PERSONNEL DEPARTMENT PUBLICATION

TO REALLY RUN THE PAPER ON BUS NET MAY 7, 1981

## HMOS I A World Leader In High Technology

ANYTHING DETAILED TO GIVE OUR COMP. ANY

Two weeks ago the Roadrunner carried an article quoting David Ledvina, Operations Manager for HMOS II, as part of a report on the world-wide competition in the high-technology 64K RAM and 68000 Microprocessor markets. This week we hear from Hector Ruiz, Operations Manager for HMOS I, which is also located at the Mesa plant.

Hector was born and raised in Mexico. He came to the U.S at age 18 and entered Rice University where he earned his PhD degree in Physics. Hector joined Motorola in 1977, working in Europe for several years before relocating to Mesa in February of 1980.

Roadrunner: Hector, in a layman's language, what will the 64K RAM and 68000 Microprocessor do?

Hector: "The 64K RAM, with its large density, allows computer manufacturers to increase their storage capacity without increasing the size of the computer. The 68000 is really a masterpiece of microprocessor engineering. It is the brain of the computer."

Roadrunner: How many places in the U.S. are capable of producing the 64K RAM?

Hector: "Motorola in Mesa is the only American company currently delivering 64K RAMs in volume to customers. A number of U.S. companies are sending samples of the products made in their labs to customers, but they have not reached the production stage.

"We have captured 35 percent of the world's market for 64K Rams, and that 35 percent came right off our production line in Mesa. Some Japanese firms are delivering 64K RAMs and they are our main competition at this point in time."

Roadrunner: How many companies are producing an advanced microprocessor like the 68000?

Hector: "The 68000 is a Motorola design, and everything indicates that customer acceptance is incredible. The 68000 is extremely fast which enables a computer to make faster calculations, saving valuable

computer time. We are the only ones who make it, but we have entered into some agreements with other firms who will 'second source' this product. Our main competition is Zilog and Texas Instruments' Z8000 and Intel's 8086 is also in this market. There is little Japanese competition at present."

Roadrunner: How long has Motorola been in production of 68000 microprocessors and 64K RAMs?

Hector: "We've been building the 68000 for more than one year. It was built in APRDL until the fourth quarter of 1980, when it was transferred to HMOS I production. Some people thought that yields might drop once the product left the labs, but the opposite has taken place. Our yields have increased tremendously.

"APRDL started building our first 64K RAM in late 1977 and the line transferred to HMOS I during the second quarter of 1978. The new generation 64K RAM is by far the most difficult product we make throughout all of the Semiconductor Group."

Roadrunner: How difficult is the production of these devices?

Hector: "Practically everything we used to know about MOS production is increased in complexity by at least one magnitude. The product must be produced in what we call a 'class 10' environment, which means only 10 dust particles per cubic foot of air. For standard parts, 100 particles of dust is usually acceptable."

Roadrunner: How has production been to date?

Hector: "It has been very good. Productivity of 64K RAMs has increased by a magnitude of ten in one year. This increase is due to the efforts of a very talented and dedicated team which is working together to come up with technological breakthroughs. As an example, the thickness of gate oxide can be only plus or minus 25 angstroms (one ten-billionth of a meter). No machine is capable of measuring this, so we have

SENSITIVE INFO!



Hector Ruiz

Super Job Thanks  
come up with a procedure to statistically determine the best way to keep the product within the specification range." Jim

Roadrunner: What kind of sales growth do you see for HMOS products?

Hector: "It's so fantastic that to date the demand is significantly larger than our ability to deliver. We are increasing our volume as fast as we can without losing the gains we have achieved in yields. Also, between now and the end of this year we plan to increase our number of direct labor employees by about 25 percent and indirects by 5 percent, and add new equipment."

Roadrunner: What trends do you see developing in HMOS?

Hector: "We are receiving very many inquiries for information on our 64K RAMs. Since we are the only U.S. manufacturer of these devices at present, customers want to know how many we can ship, how soon, and at what price.

"Another trend is that there has been a significant deterioration in prices. The average selling price of the 64K RAM was in excess of \$100, and now we are hearing of quotes for delivery in the fourth quarter which are as low as \$12.

"In general we anticipate HMOS allowing greater and greater integration and complexity. We expect to supply a growing list of customers with 64K and larger RAMs and microprocessor devices to a wide range of markets. As an example, we were able to deliver a prototype 6801 Microprocessor for electronic control of an automobile to a Japanese company two weeks ahead of schedule. The part worked the first time they plugged it in. We are thrilled about this and hope it gives us an inroad into the Japanese automotive market, which as you know is quite large."

Roadrunner: Is there anything else you would like to add?

Hector: "Yes, I would like to convey the fact that a large number of people have put in a lot of work to get us to the leadership position we now enjoy. We have been able to put together a very talented team of people."



*Hector Ruiz is Director of MOS Wafer Processing Operations. He joins the MOS/IC Group in Austin after having directed HMOS in Mesa, Arizona and the wafer operations for Motorola East Kilbride, Scotland facility.*

## Hector Ruiz promoted to Wafer operations director

Hector Ruiz has been promoted to director of MOS/IC Group Wafer Processing Operations in August replacing Gary Johnson who was promoted to MOS/IC Group General Manager. Hector brings to the Austin facility nine years of experience in research and managerial skills and a formula to a successful working relationship which Hector says involves "honesty, industriousness and cooperation."

Hector received a degree in electrical engineering from the University of Texas in 1968. This accomplishment came after his father promised an incentive he knew his son could easily achieve and surpass.

"During my childhood I enjoyed auto mechanics," said Hector. "My father and I made a compromise that if I stayed in college one year, he would help me set up an auto shop. I completed one year at UT, decided on engineering and returned to complete the degree program. My father knew all along I would get the degree."

Hector completed a doctoral program in physics in 1972 at Rice University in

Houston. He joined Texas Instruments as a research specialist in 1972 and stayed until 1977. His main effort in research was to develop high power application to a solid state laser.

His career with Motorola began in the fall of 1977 when he worked with MOS/IC in Austin for three months before being transferred to East Kilbride in Scotland. As an operations manager in 'EKB' as our Scotland plant is called, Hector assisted in expanding Europe's MOS manufacturing capability significantly. He returned to the States in 1980 where he became the MOS manager of our HMOS facility in our Mesa plant in Arizona.

"The wafer processing operations of MOS/IC includes MOS 2, 3, 5, and 6 and is the backbone of the organization," said Hector. "As director of the wafer operation I provide support and assistance to all operations managers in wafer output application and technology."

Continued on p. 2

## Motorola 3rd quarter Reports improved sales

Motorola, Inc. reported improved sales but reduced earnings for the third quarter and first nine months from year-ago levels.

Sales and other revenues for the quarter were \$823 million, up 11 percent from the \$743 million a year ago.

For the quarter, earnings decreased from \$46.6 million, or \$1.49 per share in 1980 to \$39.6 million, or \$1.26 per share; the decline was due primarily to lower Semiconductor earnings and generally depressed international margins caused by the strong U.S. dollar and weak local economies.

In the first nine months of 1981, sales and other revenues totaled \$2.48 billion

an increase of 8 percent from the \$2.30 billion in last year's similar period. Net earnings in the 1981 period were \$133.3 million, or \$4.24 per share, compared to \$136.9 million, or \$4.39 per share, in the previous year's first nine months.

Motorola's third quarter and nine-month results were significantly impacted by a reduction in the income tax rate. The corporation is now estimating and providing for an income tax rate of 32 percent for all of 1981, down from 35 percent in the first and second quarters. The necessary adjustment for the nine months was made in the third quarter.

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**HECTOR RUIZ**  
**Senior Vice President and Director of Technology Management**  
**Semiconductor Products Sector**

Hector Ruiz joined Motorola in 1977 as an Operations Manager for CMOS and NMOS manufacturing in East Kilbride, Scotland. In 1980, Ruiz returned to the United States and spent two years at the Mesa Integrated Circuit facility as Operations Manager of the HMOS Front-end unit. He was transferred to Austin, Texas in 1981 and promoted to Director of Operations for all MOS Front Ends. Ruiz was appointed V.P. of MOS Wafer Processing in 1982 and two years later, V.P. and Assistant General Manager of the Memory Products Division.

Dr. Ruiz left Motorola in 1986 to join Thompson Components, MOS Technology Corporation as Senior V.P. for I.C. Products. He returned to Motorola in 1987 to the position of Corporate V.P. and General Manager of the I.C. Wafer Manufacturing Group in Austin, Texas. In 1988 he joined the Microprocessor Products Group as Corporate V.P. and Assistant General Manager. In October, 1988, Ruiz assumed his present position of Corporate Vice President of Technology Management. He was promoted to Senior Vice President in February of 1989.

Prior to joining Motorola, Dr. Ruiz worked at Texas Instruments in Dallas, Texas. He held a number of responsible positions between 1972 and 1977 in the research laboratories and manufacturing operations.

Civic involvements during 1987 and 1988 in Austin, Texas include: United Way Campaign Chairman; Member of the Board of Directors, Science Academy of Austin; Visiting Committee Member, University of Texas at Austin; Industrial Advisory Committee, Rice University; Leadership Institute Guest Speaker - MALDEF and Industrial Advisory to the Texas Alliance for Minorities in Engineering

Ruiz received his bachelor's and master's degrees in electrical engineering from the University of Texas at Austin in 1969 and a doctorate from Rice University in Houston, Texas in 1972. He has been the recipient of several honors and awards in various engineering societies.



# Leading Hispanics

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NATIONAL  
LEADERSHIP  
PROGRAM

APRIL 1989

Volume III, No. 1

## Hispanic Leadership: Vision, Responsibility, Risk

At twenty-two years of age, entrepreneur Adelfa B. Callejo reaped a \$50,000 profit from her first-year import/export business. Today she's a commanding lawyer and self-made multi-millionaire who will "march through the streets of Dallas" to protect the rights of Hispanics.

At the forefront of worldwide electronic technology, Hector Ruiz directs Motorola's semiconductor research in Phoenix. As Corporate Vice-President of Sector Technology, Ruiz oversees a staff of over a thousand and targets future areas of research by working with Motorola customers. Ruiz, who has a Ph.D. in electrical engineering, also has been active in professional organizations and the United Way, and has participated in seminars on leadership.

Both of these professionals are experts in their fields. Yet to get where they are today, Callejo and Ruiz have not only utilized their talents — the ability to set goals, to take risks, and to accept responsibility — but they also have carefully cultivated their leadership skills.

"People in my age group learned to become leaders by watching Anglos operate," notes Callejo, an individual who combines the flexibility to negotiate with the courage to protest. "We learned not to take 'no' for an answer. But we also learned that when you're at the table you can settle for 70% and come back for the rest tomorrow."

Developing the leadership skills of mid-career Hispanics has been a priority for the Mexican American Legal Defense and Educational Fund (MALDEF) since 1980, when it established its leadership development program. Through a series of seminars the program assists individuals in education, business, law, medicine, banking and other professions in enhancing their knowledge of the political system and in developing their personal skills. After the training, MALDEF assists aspiring leaders in gaining appointments to boards and commissions that match their skills and interests.

Over the past nine years, MALDEF has provid-



In Chicago, Robert Ruiz gives tips on running effective meetings.

ed leadership training to over 1,100 mid-career Hispanics in eight different cities nationwide. About half of those individuals have been placed on policy-making boards and commissions.

Leticia Quezada, the first Hispanic woman to serve on the Los Angeles Board of Education, echoes the premise of the MALDEF leadership development program. "If you want to make a change, if you want to be effective, you need to be where the decisions are made," she says. Quezada won the 1987 Board of Education election in a resounding victory, obtaining twice as many votes as her closest opponent.

Despite current efforts to develop leaders, Hispanics still have limited access to positions of power and leadership. The Census Bureau estimates that Hispanics comprise about 8% of the total U.S. population. Though the number of Hispanics in top level business positions, in elected office, and in appointed positions is increasing, Hispanics are still underrepresented in leadership positions in virtually all sectors.

According to 1982 Census Bureau statistics, the most recent information available on minority-owned enterprises, only about 2% of all

businesses in this country are owned by Hispanics.

A 1987 Bureau of Labor study says that Hispanics continue to comprise only 2% of the nation's lawyers, despite a growing Hispanic population.

In government, the National Association of Latino Elected and Appointed Officials (NALEO) Education Fund's 1988 *Roster of Hispanic Elected Officials* reports that less than 1% of all U.S. elected officials are Hispanic. Furthermore, Hispanic elected officials are concentrated at the local level. About 36% of all  
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### Leadership Symposium

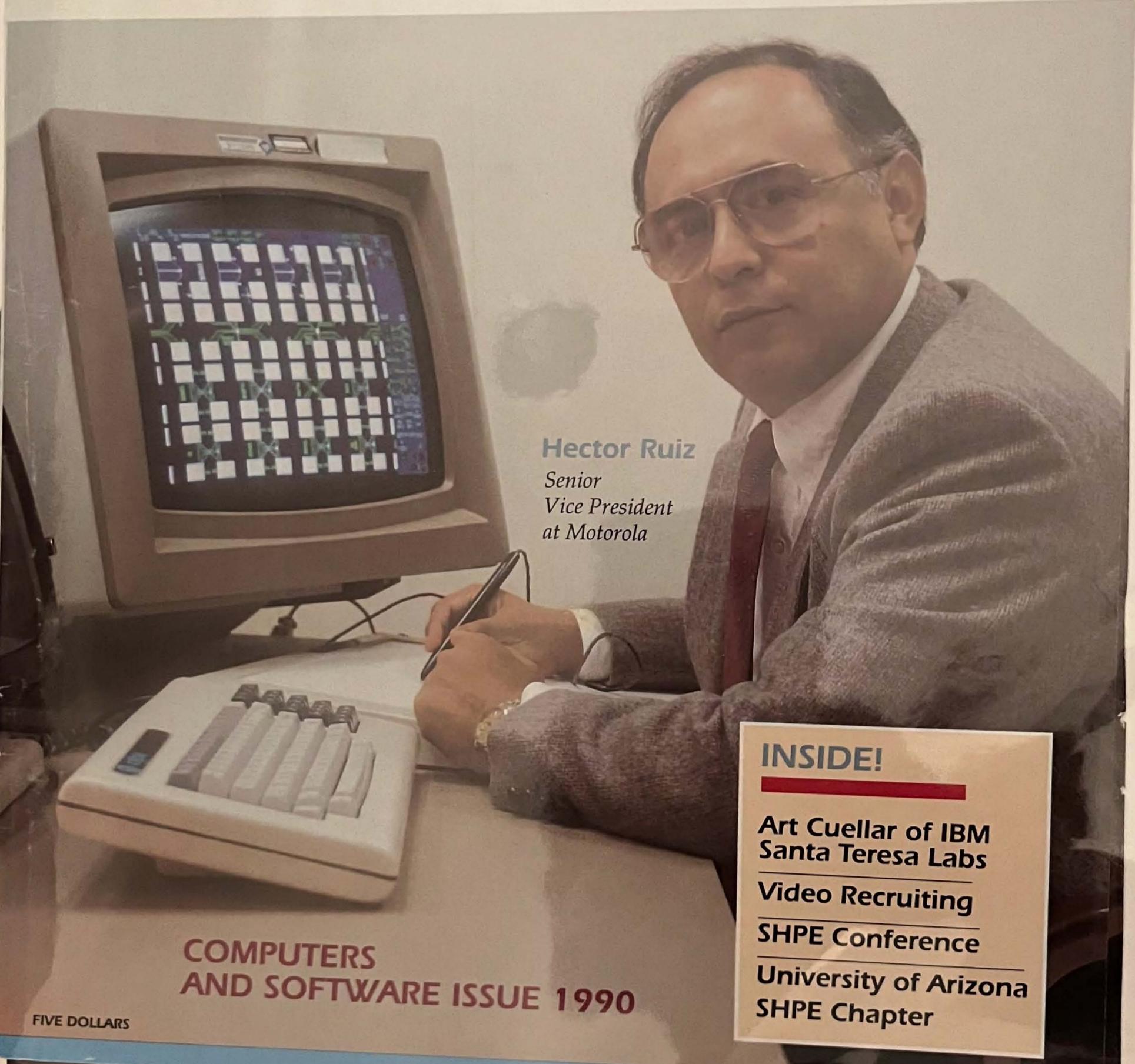
The first MALDEF Leadership Symposium, slated for August 18 and 19 in Los Angeles, will culminate five years of MALDEF leadership development in the Southern California area. At the symposium, which marks the end of MALDEF's Los Angeles Leadership Development Program, Phase II leadership program participants will present their research on Los Angeles area boards and commissions including the Board of Education and the City Planning Commission.

Other symposium activities include: a training session on corporate board participation, discussion on new leadership training techniques, and the presentation of MALDEF positions by MALDEF staff.

The symposium is open to leadership graduates and participants from all regions. For more information, contact Los Angeles Leadership Director Magdalena Duran at (213) 629-2512.

THE OFFICIAL MAGAZINE OF THE SOCIETY OF HISPANIC PROFESSIONAL ENGINEERS

# HISPANIC ENGINEER<sup>®</sup>



**Hector Ruiz**  
*Senior  
Vice President  
at Motorola*

**INSIDE!**

**Art Cuellar of IBM  
Santa Teresa Labs**

**Video Recruiting**

**SHPE Conference**

**University of Arizona  
SHPE Chapter**

**COMPUTERS  
AND SOFTWARE ISSUE 1990**

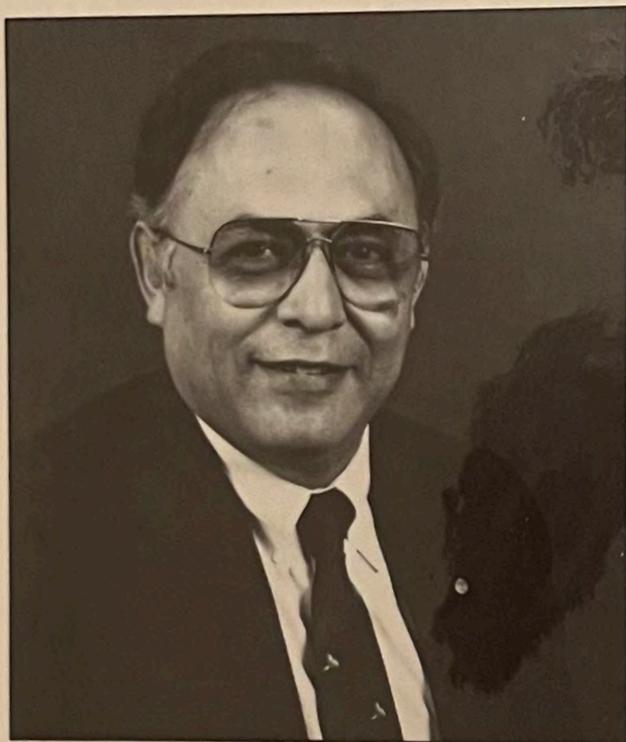
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## Hector Ruiz – Hispanic Engineer of the Year



"I've always been fascinated with how things work." Hector Ruiz, senior vice president and director of technology management for the Semiconductor Products Sector, began his study of engineering from this premise of curiosity. His curiosity grew to interest and sustained him through bachelor's and master's degrees from the University of Texas in 1969 and a doctorate from Rice University, Houston, Texas, in 1972.

Hector joined Motorola in 1978 as an operations manager for manufacturing complimentary metal oxide semiconductors (CMOS) and

n-channel metal oxide semiconductors (NMOS) in East Kilbride, Scotland. In 1982 Hector transferred to Austin, Texas, as director of operations for all MOS front ends. In 1982 he became vice president of MOS wafer processing and in 1984, vice president and assistant general manager of the Memory Products Division.

Today, Hector is involved in defining the future through the technology of synchrotron X-ray lithography. This joint venture between Motorola and IBM will attempt to develop a new X-ray technology to manufacture

semiconductors using intense beams of shorter-wavelength X-rays as a light source.

Hector credits his father as his biggest source of inspiration, energy and perseverance throughout his life: "Do your best and everyone will be proud of you." And, as proof of his father's advice, Hector was given the 1990 Hispanic Engineer Award for Professional Achievement in Industry. On October 20 the 1990 Hispanic Engineer National Achievement Awards were presented in Houston at an awards banquet which ended a three-day conference sponsored by Hispanic Engineer magazine and the Mobil Corporation. Gary Tooker presented the award to Hector. Over 1,000 high school and college students, corporate leaders, including Motorolans from all businesses, educators and Hispanic engineers attended the event.

The Hispanic Engineer National Achievement Awards Conference was created to pay tribute to outstanding Hispanics for their contributions in science, engineering, education and technology. These awards exist to acknowledge achievement and to encourage young Hispanic men and women by example. In his acceptance remarks, Hector noted, "Helping others is what a profession is all about. It is one of the best rewards engineering has given me."



**HECTOR RUIZ**  
**EXECUTIVE VICE PRESIDENT AND GENERAL MANAGER**

\*\*\*\*\*

**MOTOROLA**  
**MESSAGING SYSTEMS PRODUCTS GROUP**  
**MESSAGING, INFORMATION AND MEDIA SECTOR**

*Hector Ruiz is executive vice president and general manager of Motorola's Messaging Systems Products Group, headquartered in Fort Worth, Texas. In this capacity, Dr. Ruiz oversees worldwide operations of Motorola's paging and messaging businesses. He has held positions of successively increasing responsibility since joining Motorola's Semiconductor Products Group in 1977, and has been an elected officer of the company since 1987. Dr. Ruiz assumed the leadership of the Paging Products Group in Boynton Beach, Florida in 1991, and was promoted to executive vice president of Motorola in 1994.*

*In 1996, the group was renamed the Messaging Systems Products Group, reflecting the evolution of paging into the broader category of messaging products, systems, and services. His skillful leadership of the Messaging Systems Products Group has positioned Motorola as the undisputed leader in the paging and messaging industry worldwide.*

*Before joining Motorola, Dr. Ruiz worked at Texas Instruments in Dallas, Texas, and held a number of responsible positions in research laboratories and manufacturing operations. He has been recognized as Hispanic Engineer of the Year in the Professional Achievement category, and currently serves on the Board of Directors of the Hispanic Engineer National Achievement Awards Conference (HENAAC) and Society of Hispanic Professional Engineers. In 1994, Dr. Ruiz was elected to the Executive Board of the National Engineering Consortium. He has served on the Executive Committee of American Electronics Association Florida Council, and has been active in many civic organizations throughout his career.*

*Dr. Ruiz received his Bachelor's and Master's degrees in electrical engineering from the University of Texas in Austin in 1969 and a Doctorate from Rice University in Houston, Texas in 1972.*

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JOHN N. PALMER  
CHAIRMAN OF THE BOARD

January 27, 1997

Mr. Hector Ruiz  
Executive Vice President and General Manager  
Messaging Systems Products Group  
Motorola  
5401 North Beach Street  
Fort Worth, Texas 76137-2794

Dear Hector:

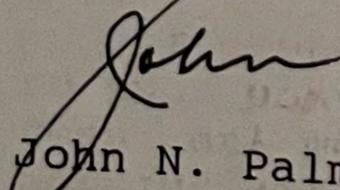
Thank you for taking time to write to tell me of your new position. As much as I regret your not being in the messaging or paging division any longer, I do wish you the best in your new position with the Semiconductor Product Sector.

Working with you, especially in the last year, has been very meaningful to me and to Mtel. I want you to know how much I value that relationship and how much I appreciate all the support you and Motorola have given in working with us to make our two-way a success.

In the past, there have been a lot of good people in the Motorola management who I have worked with, but there is none that I value and appreciate as much as the personal and the working relationship we have developed. You will be sorely missed.

Thank you for all you have done. I hope you will stay in touch for there is a great future ahead as a result of all of your efforts for both of our companies. Again, I wish you the best.

Best personal regards,

  
John N. Palmer

January 10, 1997

Dear Hector:

My heartiest congratulations to you on your promotion to Executive Vice President in the Office of the President, Semiconductor Products Sector. As I indicated to you some time ago, you might be surprised how the future could evolve and the timing of some opportunities that you might find.

I know you must be excited returning to the leadership of the Semiconductor Sector, even though you did say that you couldn't think of a better job to have than Paging.

It has been exciting to watch your continued professional growth as you have led the Paging effort through its tremendous growth and global restructuring and your great leadership of the Latin American SEP. I know you will bring the same outstanding skills to the leadership of SPS and be able to build on the recent structure and leadership changes that Tommy has made and work with him and beyond as you put your imprint on the organization and build the SPS team. Your great Semiconductor experience coupled with your several years of customer interchange with the SPS organization provides you a great foundation to do an outstanding job.

I know the last several years of moves have been difficult personally for you and particularly Judy, so please pass my thanks on to her for her great support of your efforts at Motorola.

As you assume your new responsibilities, please know that I stand ready to act as a sounding board, advisor, confidant, or whatever role you feel appropriate as you move forward. I am looking forward to working with you in this important assignment.

# Motorola Divides Semiconductor Sector In Five Groups to Hasten New Products

By QUENTIN HARDY  
And DEAN TAKAHASHI

Staff Reporters of THE WALL STREET JOURNAL

Seeking to emerge from an industry downturn with a faster approach to delivering products, Motorola Inc. divided its semiconductor sector into five groups based on market focus.

Hector Ruiz, executive vice president of the semiconductor products sector, said the reorganization is aimed at restoring growth rates in Motorola's chip business, which took a severe hit last year with an industry downturn and slowing demand for Motorola's own cellular phones.

Motorola is reversing the way it has traditionally sold chips. Before, it made chips, then sold them to different markets, like consumer goods or computers, even when the chips were not perfectly suited to those markets. Now, the focus is on zeroing in on what the customers want and "turn out a product in 30 days," instead of three months, Mr. Ruiz said. Naming a target date for realizing that goal, Mr. Ruiz said "we'd like to celebrate the millennium with that."

"They're shooting to bring more added value to the customer by spending their research dollars in a more targeted way," said John Lazlo, analyst at PaineWebber in San Francisco. "It's the kind of strategy that can bring them back."

The new strategy draws on the Schaumburg, Ill., company's vaunted skills in fast-turnaround manufacturing. In addi-

tion to setting up the new management structure, Motorola will revamp its production processes to stress cycle time, or the speed at which products are churned out.

Mr. Ruiz said Motorola will target its chips toward the wireless communications, digital consumer, networking and computing, and transportation markets. Carlos Genardini, 50 years old, will be general manager of the consumer group based in Hong Kong; Bertrand Cambou, 41, general manager for the networking and computing systems group; C.D. Tam, 52, general manager, transportation group; and Frank Shlapak, 53, general manager, wireless group. The networking and computer, transportation and wireless groups will be based in Austin, Texas.

Greg Williams, 43, and Steve Hanson, 49, will head the semiconductor components group, which includes a variety of commodity-oriented products that compete on price.

The designation of the groups plays on existing strengths. For example, Motorola is the top supplier of semiconductors to the automobile industry. The company's cellular telephone and paging sectors are large consumers of Motorola chips, which are also sold to other wireless hardware companies. Low-cost microcontrollers, used in consumer products like coffee makers, have been another mainstay.

Motorola's Power PC chips for computers haven't sold as well as the company expected.

# Motorola power tilts to Austin

■ Restructuring of semiconductor business puts leadership, new groups in Oak Hill, not Phoenix

By **KIRK LADENDORF**  
American-Statesman Staff

Motorola announced Tuesday a restructuring of its \$8 billion semiconductor business that shifts the balance of power to Austin.

Hector Ruiz, the head of Motorola's semiconductor business since January, will work in Oak Hill, which in effect replaces Phoenix as the headquarters for the company's Semiconductor Products Sector.

Austin also will be home to three new business groups aimed at major customers: networking and computing; transportation systems; and wireless subscriber systems, which include chips for cellular phones, paging systems and radio systems.

Other new groups are for consumer systems, to be based in Hong Kong, and for semiconductor components, to be based in Europe. They are Motorola's first semiconductor groups based outside the United States.

"We are incredibly market-focused from this day forward," Ruiz said. "We are attempting to become a great partner with our customers."

Ruiz hinted that the new organization may bring a paring down of Motorola's very broad product line. He also said that internal competition for customers among Motorola divisions no longer will be allowed. Analysts said the new organization signals that



**Hector Ruiz:** Heads Motorola 'dream team' reorganizing chip business.



**Bertrand Cambou:** Moving from Phoenix to head networking



**C.D. Tam:** In charge of transportation after long tenure in Hong Kong.



**Fred Shlapak:** Already in Austin, will oversee wireless subscriber systems.

*Electronic News*  
June 2, 1997

## Motorola In Sweeping Semi Revamp

By Jim DeTar

AUSTIN, TEXAS—Motorola last week announced a sweeping reorganization of its Semiconductor Products sector (SPS), headed by Hector Ruiz, corporate executive VP and president of SPS. The reorganization, which includes the creation of four new units within SPS, was undertaken, Dr. Ruiz said, to enable the company to better meet the challenges of an increasingly global market.

Among the changes: Motorola has for the first time based two systems-level groups outside the U.S.: the Consumer Systems group, headquartered in Hong Kong, and the Semiconductor Components group, which will be headquartered in Geneva, Switzerland.

In a broad-based interview with *Electronic News*, Dr. Ruiz commented: "There are three things that are outstanding about this announcement: One is we have shifted our orientation almost about-face relative to how we view our customers and markets. We are much more market-focused not only in name but in how we run our business. That is in my view a significant change going forward.

"The second is we have a complete new management team, new names and faces, all focused to make this work.

"The third is incredibly significant—the fact that the four markets we chose to serve; there is a reason to combine all commodity production in one organization. That will lead to creative production and distribution strategies that we have never tried before."

A source in the distribution industry noted that Motorola's realignment may also profoundly affect vertical and global lines in terms of its distribution policies. If the Semiconductor Components group is to be headquartered in Geneva, this might change the distribution pattern, giving more clout to multinational distributors like Arrow, Avnet, Future and Raab Karcher—at the expense of mostly U.S.-based distributors like Wyle. These changes can be expected, the source said, and a company like Wyle might seek a relationship with a multinational to protect its position. He mentioned that there have been rumors about Wyle possibly being acquired by Avnet or

Future, and that Wyle could be in a state of flux with the pending departure as CEO of Ralph Ozorkiewicz.

John Lazio, senior financial analyst at PaineWebber, reiterated a "buy" rating on the company following the announcement and said he expects there may be changes in the company's product portfolio as a result. "We also understand that product lines that are not profitable or show little promise may be phased out," Mr. Lazio commented.

"This strategy may cause MOT to exit the DRAM business, where it only has a 1-2 percent market share (about 8-9 percent of current revenues or roughly \$600 million) and where it is currently operating at a loss," he added.

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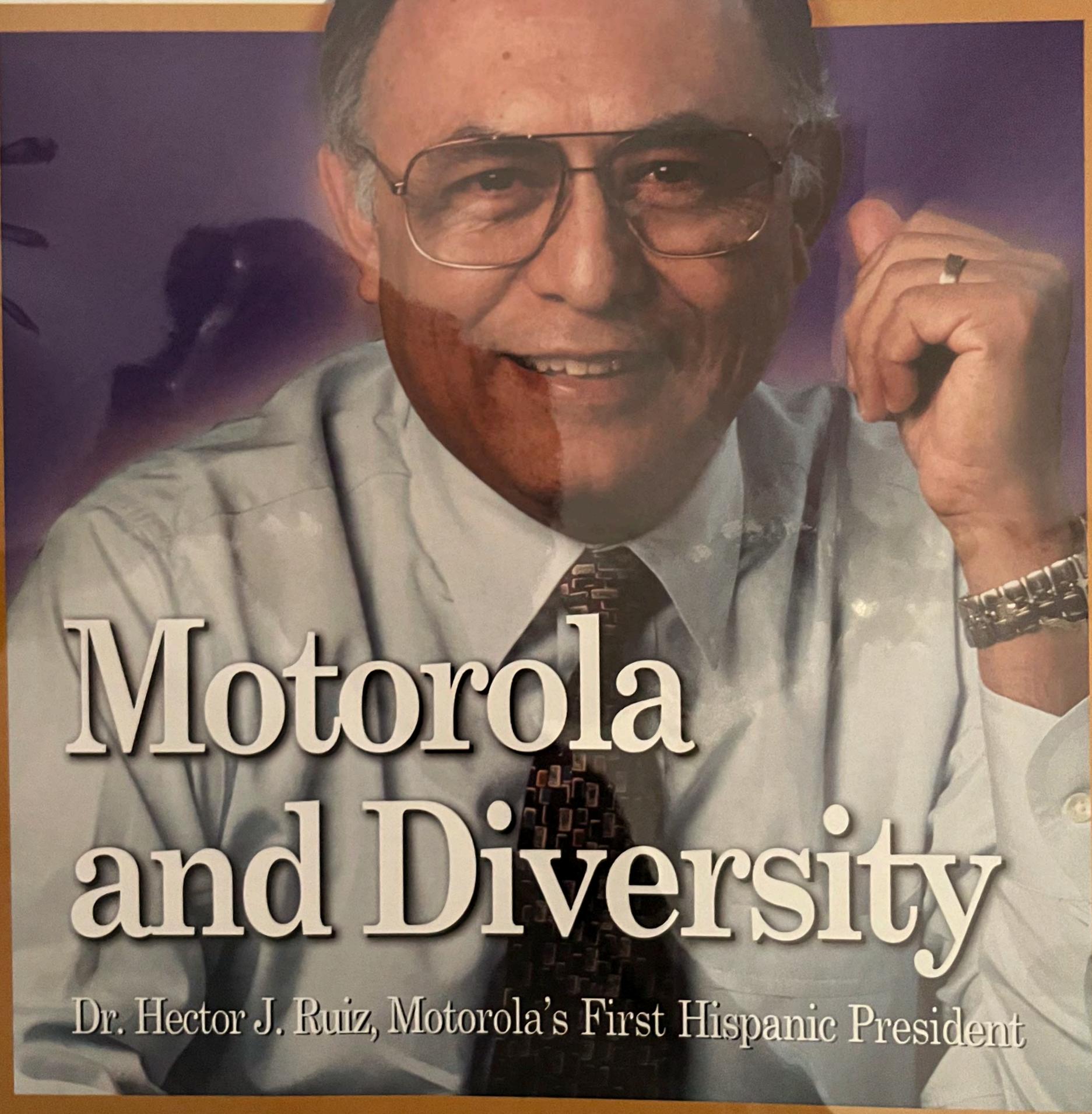
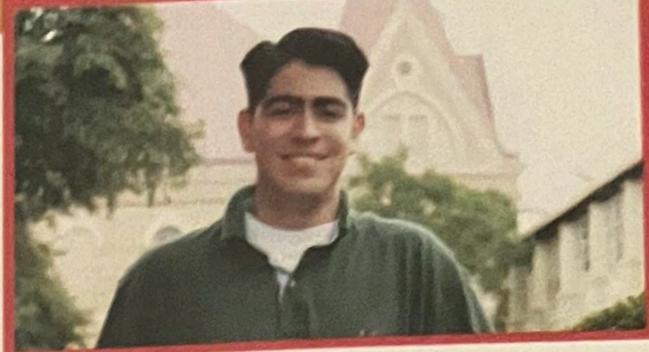
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# Motorola and Diversity

Dr. Hector J. Ruiz, Motorola's First Hispanic President

## El Corrido de Hector Ruiz

Un dia de gran augurio  
A la ciudad de Austin,  
Tejas llegó un líder de  
Primera.

Venía de la frontera  
Con su mente amplia y  
Lista para afrontar su  
Carrera.

El tren empezó a rodar  
Invitando a cada paso  
Al que quisiera jalar.

Cien dias fueron fijados  
Para definir el plan  
Que por bien de Motorola  
El aspiraba a alcanzar.

Lider de cepa y escuela  
Por consensus sin desmayo  
Y a falta de resultados el  
Daba el ultimo fallo.

En su lugar de trabajo tuvo  
Las puertas abiertas para  
Todo aquel que quisiera  
Fueran oidas sus quejas.

El mundo recorrió  
Sin vacilaciones,  
Escuchando siempre  
Atento, uniendo a todas  
Las naciones.

Lo conocieron los Galos,  
La Florida y Arizona, y sus  
Vecinos cercanos, los  
Tejanos y Paisanos.

Se mantuvo siempre alerta,  
Con carácter y destreza  
A veces ajustando el  
Rumbo, para alcanzar su  
Proeza .

En los actos de la raza  
Siempre buscó estar  
Presente, ya que por el  
Bienestar jamas olvidó a su  
gente.

Y aqui se acaba el corrido  
De un hombre de porvenir  
Que llegó de Piedras  
Negras y supo sobresalir.

R.G.S. Mayo 12, 1999

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**Hector de J. Ruiz, Ph.D.**

President, Motorola SPS

1999 Engineer of the Year

# AMD names Ruiz its president, chief operating officer

Continued from C1

time between Schaumburg, Austin and Phoenix, which is Motorola's other major concentration of semiconductor workers. Tucker, a 34-year Motorola veteran, will not give up his current job, which is executive vice president and deputy to the office of the chief executive at Motorola headquarters.

The announcement appears to settle AMD's senior management ranks, while creating uncertainties about Motorola and the direction of its chip business. Motorola officials said their semiconductor business will continue operating as usual.

"It's a shocker," said analyst Will Strauss with Forward Concepts of Tempe, Ariz., who added, "there are still a lot of things that need to be done at Motorola."

Ruiz took over Motorola's chip business in 1997 and began a difficult restructuring process that was complicated by an industry downturn. He revamped the management in the chip business and pushed it to focus on key markets and building customer relationships.

During his tenure, Motorola's 35,000-employee chip business went through a painful downsizing, exited some unprofitable businesses and sold its profitable Phoenix-based semiconductor business last summer. Motorola, which formerly bragged about having the industry's largest product line, now concentrates on selling chips for the networking, automotive and wireless markets.

Tucker, formerly a longtime general manager of Motorola's Automotive and Industrial Electronics Group, has not been actively involved in his company's chip business for more than a decade.

Motorola employs about 10,000 people in Austin, while AMD employs about 4,500 here.

Sanders said he wants to run the company he co-founded 31 years ago in "collegial fashion" with

Ruiz, while grooming Ruiz to be his "likely successor."

"My background has been strategic and marketing," Sanders said. "And Hector's background has been strategic and manufacturing, operations and engineering. We are a good fit. We both have good core values."

Ruiz said his decision to leave Motorola, where he worked for 22 years, was a difficult one. He took it, he said, because of the opportunity to become Sanders' successor and run his own company.

"It seemed like a lot of fun to come here and help fight an 8,000-pound gorilla," Ruiz said, referring to longtime AMD rival Intel Corp., which is the largest and richest company in the semiconductor industry. The two companies are ferocious competitors in

the Windows-compatible microprocessor market, the most profitable semiconductor market.

Ruiz's move is between two companies with dramatically different operating styles. Motorola, a well-established Midwestern-based electronics company, is known as much for its fierce bureaucratic infighting as it is for its pioneering role in wireless communications.

At AMD, Ruiz will encounter a company that has been dominated from the beginning by one man, Sanders, whose personal flamboyance and scrappiness have made him one of the best known figures in the semiconductor industry.

Ruiz, by contrast, is a soft-spoken technical expert. He holds a doctorate in physics, the base on

which the semiconductor industry is built.

Sanders and Ruiz became acquainted when AMD and Motorola negotiated a technology sharing agreement under which they would work together on researching advanced chip manufacturing technology. They continued to work together after that agreement was forged in the summer of 1998.

The announcement was made after the close of the stock market. Motorola's stock closed up \$2.87½ Tuesday at \$142.12½. AMD's stock gained nearly 16 percent on the day, closing at \$40 a share, up \$5.50.

You may contact Kirk Ladendorf at [kladendorf@statesman.com](mailto:kladendorf@statesman.com) or 445-3622. Staff writer Andrew Park contributed to this report.

## WHO'S NEWS

### AMD Gives Motorola's Ruiz Its No. 2 Job, Ending Latest Search for Heir Apparent

By DEAN TAKAHASHI

Staff Reporter of THE WALL STREET JOURNAL  
SUNNYVALE, Calif. — Advanced Micro Devices Inc. finally has an heir apparent again.

The chip company said yesterday that it tapped a seasoned Motorola Inc. chip executive, Hector Ruiz, for its No. 2 job of president and chief operating officer—a post left vacant for six months—and as a potential successor to company founder W.J. "Jerry" Sanders III.

Investors were apparently enthusiastic about Mr. Ruiz's hiring: AMD's share price began to rise after news leaked ahead of the announcement. AMD's shares closed at \$39.4375, up \$5.3125, in trading on the New York Stock Exchange yesterday.

"Hector is my ideal candidate," Mr.



Hector Ruiz

Sanders, AMD's chief executive officer, said in an interview. "I plan to groom him as my successor. He has the skills and guts to compete with an 800-pound gorilla," Mr. Sanders said, referring to his nickname for archrival Intel Corp.

If the top slot eventually goes to Mr. Ruiz, it may not happen for several years. The 62-year-old Mr. Sanders is under contract to be AMD's CEO until 2002. AMD has gone through several heirs apparent before. Atiq Raza was named chief operating officer in the fall of 1998 and became president in March 1999, succeeding longtime No. 2 executive Richard Previte, who, until then, was considered heir apparent. Then, as the company suffered some of its worst losses in the second and third quarters, Mr. Raza resigned from the company in July 1999.

While AMD gets a seasoned executive in Mr. Ruiz, "the question is whether Jerry will be ready to hand over the reins at some point," said Bruce Bonner, an analyst at Dataquest Inc., a San Jose, Calif., market-research firm; "that is where they had the problem in the past."

AMD gains a prominent figure in the 54-year-old Mr. Ruiz.

# ElectronicNews

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## Ruiz Takes AMD Post

BY ARIK HESSELAHL

Given how closely the two companies have been working recently, perhaps it should be no surprise that the new president of Advanced Micro Devices Inc. (AMD) would come from Motorola Inc.

As AMD worked to bring its new Dresden fab up to speed with copper process technologies it licensed from Motorola, Jerry Sanders, AMD founder and chief executive officer, had been working closely with Hector Ruiz, president of Motorola's Semiconductor Products Sector (SPS). In that partnership, Sanders apparently found his new president.

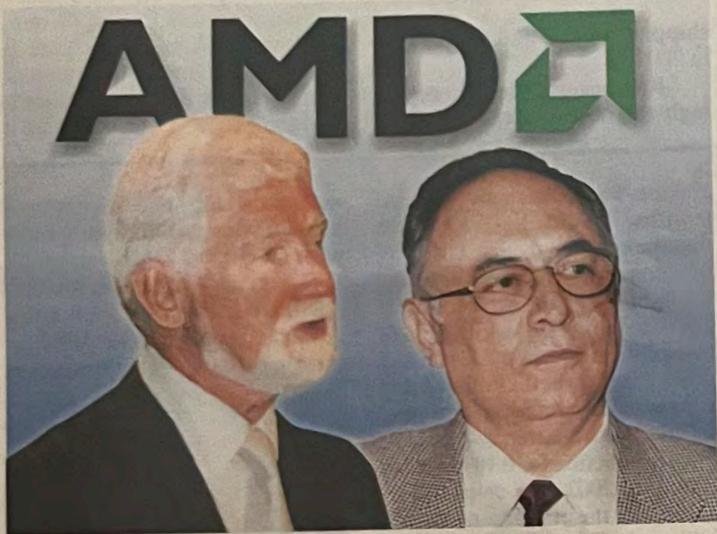
For the last six months, Sanders has been under pressure to find a replacement for the man who had been his heir-apparent, Atiq Raza. Raza resigned July 14, the same day AMD reported a \$173 million loss for its fiscal second quarter — its biggest quarterly loss ever. At the time, Raza's departure was seen as a

punishing blow and AMD's lowest point of the year. Raza went on to start two venture capital

companies, Raza Foundries and the Raza Venture Fund.

But the AMD Raza left is not the same AMD Ruiz is joining. Having reported its first profitable quarter in quite awhile, AMD

*[Continued on page 46]*



## Ruiz, AMD President

*[Continued from page 1]*

seems to finally be firing on all cylinders. Its Athlon micro-processor is scoring design wins, most recently with Gateway Inc. and with Hewlett-Packard Co. Yet its long-term prospects are still in question. As AMD's history proves, no one ever comes away unhurt from competing with Intel Corp. in the PC processor business.

In a press conference called with no more than 30 minutes notice, Sanders told reporters and analysts that he will run the company "collegially" with Ruiz and that in some cases he would make final decisions, deferring to Ruiz in others. But the question remains how much latitude Ruiz will be given under Sanders, a hard-driven, hands-on manager. "The question is, how independent will Hector get to be?" said Ashok Kumar, a semiconductor analyst with U.S. Bancorp Piper Jaffray. "I don't think he will be very independent, and I think that's why Jerry couldn't keep Atiq on board."

Sanders characterized Ruiz as the newly anointed successor and he will be groomed for the CEO job by 2001, when Sanders' contract runs out.

"I think Jerry is looking for an exit strategy," said Linely Gwenap of The Linley Group, Mountain View, Calif. "He wants to be seen as the guy who got AMD back on track as a major competitor to Intel, but not the one who left the company high and dry."

Ruiz, 54, is a 22-year Motorola

veteran who was named Hispanic Engineer of the Year by the Hispanic Engineer National Achievement Awards Conference. Viewed alternately as a hatchet man and a capable turnaround manager, he joined Motorola SPS in 1997 with a mandate to right a ship that had run somewhat aground. But three reorganizations in as many years have left Ruiz with a mixed managerial reputation.

"Hector was brought in to SPS to clean up a mess," said Danny Lam, an analyst with Fisher-Holstein Inc. "What he did was just cut out the whole top management and he brought in his own team. Now there was no question that SPS needed a housecleaning, but the problem was that it was so extensive that some people in the old guard, who were still pretty good managers, also got swept out."

Ruiz also had a great idea to help turn the company around, but choose a bad time to try it, added Lam.

"He saw the cyclical nature of the business and that Motorola kept missing," Lam said. "He came up with the idea to go counter-cyclical and to invest during downturns, which when you think about it is brilliant. If he had been able to execute on that, he would have been a hero. What killed him was the Asian crisis, which no one expected. He began to execute that strategy and turned on the capital spending taps in late 1996 and early 1997 and he ran straight

into the Asian crisis. He had the right idea, but historically, it was at the worst possible moment."

Another question is how the relationship between AMD and Motorola may deepen with Ruiz in AMD's front office. The companies have alliances in the areas of copper process technology and flash memory. Moreover there has been some speculation that AMD might rent space in its new Dresden fab, outfitted with 0.18-micron copper process technology to Motorola. Nathan Brookwood, principal of Insight 64, Saratoga, Calif., said continued cooperation between the companies would make sense. "Unless Motorola is mad that AMD stole one of their key guys, then this could bode well in terms of future cooperation," Brookwood said.

Before Ruiz's hiring, speculation had been that Robert Herb, AMD's senior vice president in charge of marketing, would step up to the plate as president and become Sanders' successor. When that didn't happen, it left some wondering about the state of internal politics at AMD. Instead of promoting someone from inside the company, Sanders is bringing in an outsider, but he's an outsider who could arguably be considered part of the industry's old guard.

"Jerry should have brought in someone from outside the box," Kumar said. "This guy is not fresh blood. Take Steve Jobs at Apple [Computer Corp.], for example. He's not a technologist by any stretch of the imagination, but he's a great marketer, which is what AMD needs right now. It's not like Hector is going to come in and rejuvenate the company." ■

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# Héctor de J. Ruiz

BY CHRISTINE GRANADOS

**H**éctor de J. Ruiz knows how to get results. He's been doing it since he was a child in Piedras Negras, Mexico. He did it at Motorola with a turnaround plan for the company's Semiconductor Products Sector. And Advanced Micro Devices, Inc., the world's second largest chip maker, is clearly banking on the *Tejano's* tenacity and know-how, having named him president and chief operating officer in January.

"Héctor Ruiz is one of the real stars of the semiconductor industry," says AMD chairman and CEO W.J. Sanders III, pointing to a "a track record of successful execution" at Motorola.

At that high-tech powerhouse, Ruiz demonstrated the ability to drive profitability while building a strong operation capable of managing the accelerated pace of technological change.

Sanders offered Ruiz a sweet deal with a base salary of \$750,000 and options to buy more than one million shares of AMD stock, according to news reports. He is expected to replace Sanders as CEO in 2002, with a \$1.5 million guarantee in the event that he isn't promoted to the post by then.

Heady stuff for a young boy who dreamed of one day becoming an auto mechanic while growing up in the border town of Piedras Negras, located across the Río Grande from Eagle Pass, Texas. Ruiz, a studious child by nature, convinced a Methodist missionary named Olive Givin to give him English lessons in exchange for running her errands and doing housework. "I wanted to learn English because I knew that all of the auto mechanics books were written in English," says Ruiz.

He so impressed his teacher that she helped him raise the money to attend Eagle Pass High School, located across the border in the United States. And he did not disappoint, becoming valedictorian of his senior class. Later, she footed the bill for his first year of college at the University of Texas at Austin. Ruiz earned a bachelor's and master's degree in electrical engineering at UT and a Ph.D. at Rice University in 1972. He dedicated his dissertation to Givin, who died in 1984.

The Mexican American continued his success at Texas Instruments, where he worked for six years. But his life changed when his first wife, Judith Marie, 29, died of leukemia, leaving behind Ruiz and their four-year-old son, Héctor, Jr. During those hard times, "I probably was not as good a father as I should have been as I immersed myself in my work and probably neglected my son," he acknowledges. "I was made aware of this by my boss at TI, Jim Van Tassel, and I began to use childcare, neighbors, and

relatives where possible to help me.

Today, "my son and I are as close as any father and son could be." The pre-school helped in other ways, too. It was where he met his second wife, Judith Anne, 24 years ago.

Joining Motorola in 1977 as operations manager was a good

move. He steadily climbed the corporate career ladder for 22 years, spending a majority of that time in the chip division. The job put him on the fast track. But it was his overhauling of the semiconductor products sector from a product-oriented division to a specific market driven group and his moving SPS headquarters to Austin from Phoenix that caught the eye of AMD chairman Sanders.

"Héctor's experience in ramping state-of-the-art technologies into high-volume production should prove particularly valuable in his new post at AMD," says Sanders.

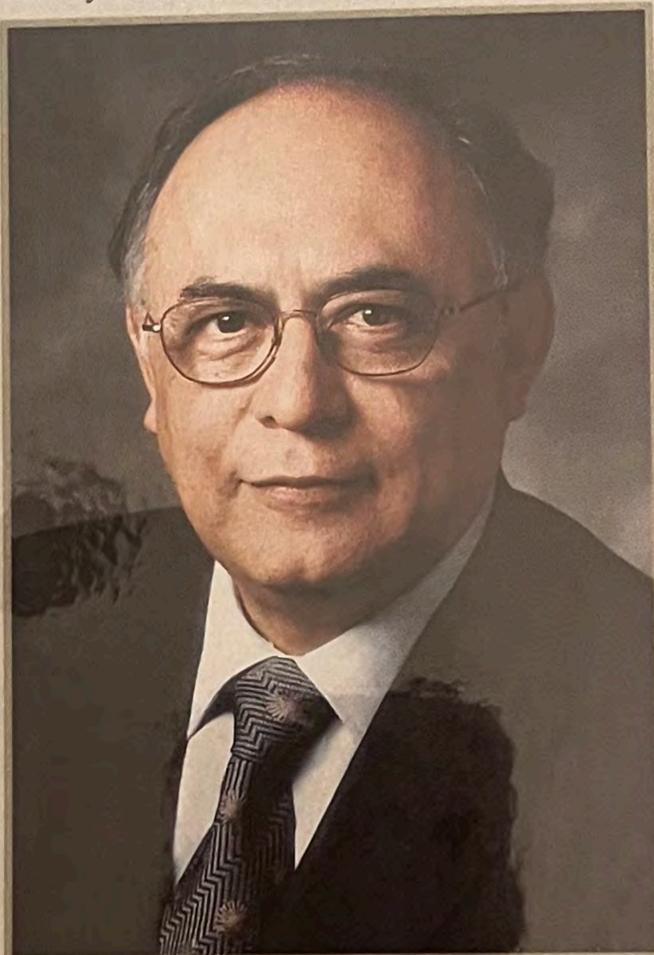
Ruiz's profitability numbers at Motorola also helped convince Sanders that he was the right man for the job. Ruiz increased operating profits almost 40 percent at SPS, from \$382 million before his arrival in 1997 to \$619 million in 1999. He did this even while working with slightly lower revenues: \$7.4 billion in 1999, compared to \$7.9 billion in 1996, according to *Electronic Buyers' News*.

But Ruiz is not just a profit driver. He's given the company a more easygoing atmosphere, according to *Business Week*, by encouraging colleagues and employees to drop by his office without an appointment and responding quickly to e-mails. He's even infusing a bit of the Latino culture in the corporate world with his burrito breakfasts at AMD's operations in Austin.

He's not using the same overhauling tactics that won him accolades at Motorola, though, because AMD is having a boom time of sorts. After four years of losses, Merrill Lynch & Co. estimated revenues of almost \$5 billion this year, up from 1999's \$2.86 billion, thanks in large part to the Athlon microprocessor, a fast and cheap chip that won dozens of contracts.

"My reaction to Sanders' offer was one of humility and respect. Jerry is such a giant in the industry that it is scary to think of stepping in his shoes. But we have developed an excellent relationship and I feel honored to be given the opportunity to run a publicly held company," Ruiz says.

"AMD's core values (which stress respect for people) are very important to me. Using them as the mantra upon which my relationship with other employees is based will only lead to insuring that all employees, regardless of race, color, religion, or sex will have the opportunity to 'be all they can be.'" **H**



***Internal Memorandum***

John Greenagel  
AMD Strategic Communications

---

November 1, 2000

TO: All AMD Employees

SUBJECT: *Business Week* article on Hector Ruiz

The October 2, 2000 issue of *Business Week* magazine contained an excellent story on AMD, focusing on President and Chief Operating Officer Hector Ruiz.

As the title hints, Hector's life story is inspiring. Born into humble surroundings in a small city on the border between Texas and Mexico, Hector seized upon an opportunity to get a good education and made the most of that opportunity. He has achieved extraordinary success as a leader in the semiconductor industry, first with Motorola, and since last January, with AMD. Most important, Hector has never forgotten his beginnings and has always worked hard to help others to use their individual talents to achieve remarkable results.

Enclosed is a reprint of the *Business Week* article.



# Dialog



October 2000  
Volume 13, Number 10

## quote of the month

**“There have always been angels in my life.”**

– Hector Ruiz, AMD president and chief operating officer, in the *Business Week* article while talking about people who have given him opportunities.



AMD appoints new CFO.

## *Business Week* article touts president's rags-to-riches story

From his teenage rock-and-roll band to a 45-minute daily walk across the Mexican border to learn English, AMD President and Chief Operating Officer Hector Ruiz's "rags-to-riches" story was summarized in the Oct. 2 issue of *Business Week*.

The article describes his childhood, including his desire to learn English and his tutor's emphasis on education. The article goes on to talk about his family life and his relationship with Jerry Sanders, AMD chairman and chief executive officer.

The following excerpt from the article illustrates two AMD values—Integrity and Responsibility and Respect for People:

“There have always been angels in my life,” Ruiz says. One way he shows his gratitude is by buying the textbooks and school supplies for dozens of children in Piedras Negras who can't afford them.”



**ROCKIN' AND ROLLIN'**—in his high school days. Hector Ruiz, AMD president and chief operating officer, (left), with three friends, made up The Teenagers band. The photo was one of the pictures not printed in the *Business Week* article.

Hector has gone beyond buying school supplies. Also mentioned in the article are his 38 nieces and nephews he financially helped through college.

The article began when Hector met with Andy Reinhardt, San Francisco bureau chief of *Business Week*, during a one-on-one July

see HECTOR, on Page 8



e-business, la tecnología de la nueva economía

3G: la siguiente generación

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# Soaring to Greater Heights

*Growing up poor in the Mexican border town of Piedras Negras, Hector de Jesus Ruiz '72 never imagined that someday he would be president and COO of Advanced Micro Devices.*

"Are you kidding?" he says in a telephone call from his office in Austin. "I wanted to do a bunch of oddball things." When he wasn't playing with a rock and roll band called The Teenagers, he dreamed of being an auto mechanic.

Not that he lacked drive, but his humble surroundings offered humble aspirations. His family was so poor that Ruiz was born at home because his parents couldn't afford a hospital. His father worked at a ranch and his mother was a secretary.

His fortune changed, however, when Ruiz was 15. He met a missionary who taught him English in exchange for housework. She also encouraged Ruiz to attend high school, which he did by walking 45-minutes each way across the border to Eagle Pass. Ruiz thrived in school, and by the time he graduated, he was valedictorian of his senior class.

As if she hadn't done enough, the missionary paid for Ruiz's first year at the University of Texas, where he received a bachelor's and a master's in electrical engineering. Ruiz then pursued a Ph.D. in electrical engineering at Rice. Forever grateful to the missionary, he dedicated his dissertation to her, Olive Givin.

Ruiz says he went to Rice because he wanted to do something modern in the field of electrical engineering. "Also, I heard there was a professor, Thomas Rabson '54, who liked working on cars, and since I liked doing that too, I thought that Rice couldn't be that bad."

Rabson, professor emeritus of electrical and computational engineering, remembers Ruiz as being an excellent student. "He was probably one of the best, if not the best, graduate student I have ever had," Rabson asserts. "I use his notebook as an example of how to keep a research notebook."

Ruiz's experience at Rice is one he will never forget. "It was the best time of my life," he says. "We felt like a family. The teachers treated me with respect and there was camaraderie among the students."

Even the maintenance workers, says Ruiz, made him feel at home. In a talk he gave at Rice in honor of Hispanic Heritage Month, Ruiz said he thought that the Mexican workers didn't like him because he was a student and unlike them. Ruiz took pains to avoid the workers, but one day as he sat outside, a groundskeeper came up to him and patted him on the back. "He told me, 'We are so proud of you, and we want you to know that. We also want you to know that we feel that by keeping this campus beautiful, we are helping you enjoy this university so that you can graduate.'"

On that day, Ruiz says, he learned a valuable lesson: Those who have self-worth respect themselves and others, no matter what their social background. He also learned that self-worth is a key ingredient for success, an idea that he would later impart to young Hispanic students.

After he graduated from Rice in 1972, Ruiz went to Texas Instruments in Dallas, where he worked for six years in the company's research laboratories and manufacturing operations.

In 1977, Ruiz joined Motorola as an operations manager in a semiconductor facility in East Kilbride, Scotland. He returned to the United States in 1980 to assume positions of increasing responsibility and was eventually made president of Motorola's worldwide Semiconductor Products Sector (SPS).

As president, Ruiz faced one of the most difficult assignments of his career: to reorganize and save the struggling division. He had to make some very unpopular decisions, such as laying off several hundred employees, cutting layers of management, reducing manufacturing expenses, and moving the headquarters from Phoenix to Austin. The draconian measures, painful though they were, did produce results. Business analysts credit Ruiz for turning the group around and leading SPS in 1998 to sales of \$7.3 billion.

Another difficult decision for Ruiz was to leave Motorola. He had worked there for 22 years and learned a great deal as he moved up the corporate ladder, but then Advanced Micro Devices Inc. founder W. J. Sanders III handpicked him to be

president and chief operating officer of his company. To head one of the world's leading producers of microchips was a new challenge that Ruiz could not decline.

Ruiz took the helm of Advanced Micro Devices (AMD) in February 2000. "I love it. I am having a good time," he says. "This new responsibility has reinvigorated me. I feel I like I was born again." And Ruiz will need all that newfound energy to go against his main competitor, the giant Intel, which has very deep pockets.

But industry observers predict that Ruiz will give Intel a run for its money. In its October 2, 2000, issue, *Business Week* declared in a headline: "Why the Chipmaker's Overachieving President, Hector Ruiz, Should Worry Intel." According to the article, Merrill Lynch & Co. expected AMD's revenues to hit \$4.95 billion for the year 2000, up 73 percent from 1999's \$2.86 billion. Ruiz is expected to continue that boom by making faster and cheaper chips than Intel's.

A diligent worker, Ruiz's accomplishments have been recognized by several organizations. He was named the 1999 Hispanic Engineer of the Year at the Hispanic Engineer National Achievement Awards Conference. In 2000, the same group inducted him into the Hispanic Hall of Fame.

For all his glories, Ruiz is determined to remain compassionate, especially after his first wife died at age 29 of leukemia, leaving him with a four-year-old son, Hector Jr. "I treat people with utmost dignity," he told *Business Week*. He later remarried a widow with two children.

Ruiz cherishes the role of being a Hispanic role model. He often goes to schools throughout Texas to encourage Hispanic students to get a college education. At a talk he gave at Rice, Ruiz told a packed crowd that success consists of three building blocks: self-worth, a good education, and access to quality technology.

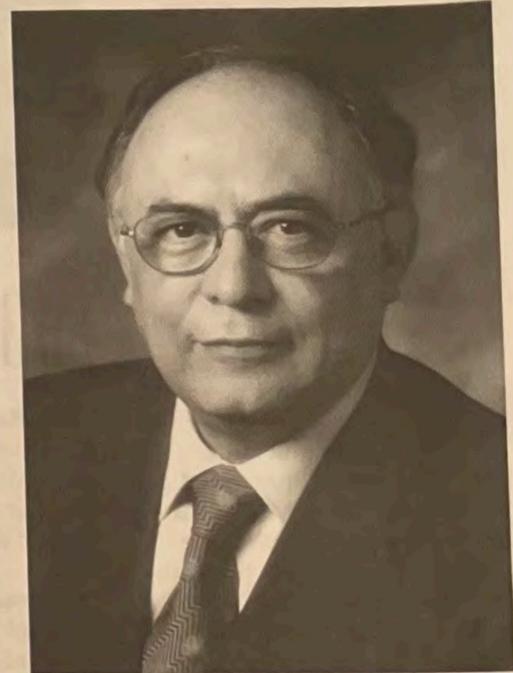
"The power of self-worth is the single most important building block," Ruiz explained. He said that self-worth stems from having strong family values. He may have grown up poor, but his loving parents instilled in him from a very early age a sense of self-worth. His mother, he said, worked at night so that he could attend a private school, and she made sure that he always wore a clean shirt to school. That very simple act, he said, drew the admiration of his peers. His father inculcated him with the idea that in order for society to progress, each generation had to be better than the previous one. "Self-worth gives you the right to be respected. Without that right, it's very difficult to make one generation better than the other."

Education, the second most important building block for success, is seriously lacking in Texas, Ruiz said. By the year 2025, Hispanics will be in the majority, but if the educational status of Hispanics doesn't improve, Texas will be a second-class state.

In 1999, Ruiz was appointed by the governor to the Texas Higher Education Coordinating Board, which has a 25-year plan to rectify the educational problem. "Frankly, when I look at five-year-olds in the first grade, I don't have the courage to tell them that they are doomed because our programs won't be able to help them until 2025," he said. "We need to say 'no mas' to this long-term solution. We have the resources and means to do it now."

Access to quality technology is one way to accelerate the process of providing education to the poor, Ruiz said. "Technology can close the gap between the haves and the have nots. It can help people move up the economic ladder."

When his talk was over, Ruiz was whisked away by AMD's corporate jet to California for yet another meeting. His 45 minute walks to school are long behind him, the dust cleared from his shoes. Ruiz has walked a long path to reach the American dream, and he now is soaring to greater heights.



—DAVID D. MED



RICE UNIVERSITY

MALCOLM GILLIS  
PRESIDENT

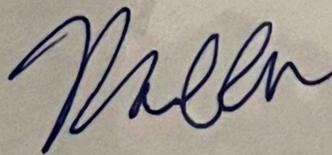
February 21, 2002

Dr. Hector Ruiz  
8218 Chalk Knoll Drive  
Austin, Texas 78735

Dear Hector:

Congratulations on receiving the Distinguished Alumni Award. This is always a difficult decision for the Association of Rice Alumni to make as we have so many graduates who have worked hard and reached the front ranks of their professions. I liked what Jerry Sanders said about you: "He has the skill and guts to compete with an 800-pound gorilla." That is the kind of role model we like to promote around here. Having you and Judy here the evening of May 11 will be an honor.

Best,



MG.ma

# U1

**Hector de J. Ruiz**  
Chief executive officer  
Advanced Micro Devices  
Sunnyvale, California  
Photograph by Debra McClinton



**“The engine of real economic growth is not technology but **innovation.**”**

**Over the past few years, we've talked about technology as if it were** a stand-alone product—something that either does or doesn't "sell well." But it is really an enabler for an awful lot of the great products that have made life better for all of us, including cars, computers, PDAs, and phones. Because technology enables these things, any broad recovery will be felt immediately in the technology arena. Tech is the sweetener in the lemonade, you might say. That said, I don't see any significant signs of a recovery in the next quarter or two.

When recovery does come, communications will be the technology category to watch. There is no question that the need and the demand for connectivity is there, and the communications revolution is just beginning. Whether you are in the office, at home, or in the car, you

want to connect intelligently to the relevant things in your life. There are 6 billion people in the world, and only a small percentage are broadband connected right now. That's a tremendous opportunity.

This slowdown has given companies the opportunity to innovate. We already know that technology is capable of doing things beyond anything we ever imagined. But let me underline this: The engine of real economic growth is not technology but innovation. And only the companies who are customer-centric in their innovation will succeed.

**HECTOR DE J. RUIZ** was named CEO of Advanced Micro Devices in April 2002, succeeding the company's founding CEO, W.J. Sanders III. Previously, he was AMD's president and COO. Ruiz came to AMD from Motorola, where he spent 22 years as an engineer and executive in various positions both in the United States and overseas.

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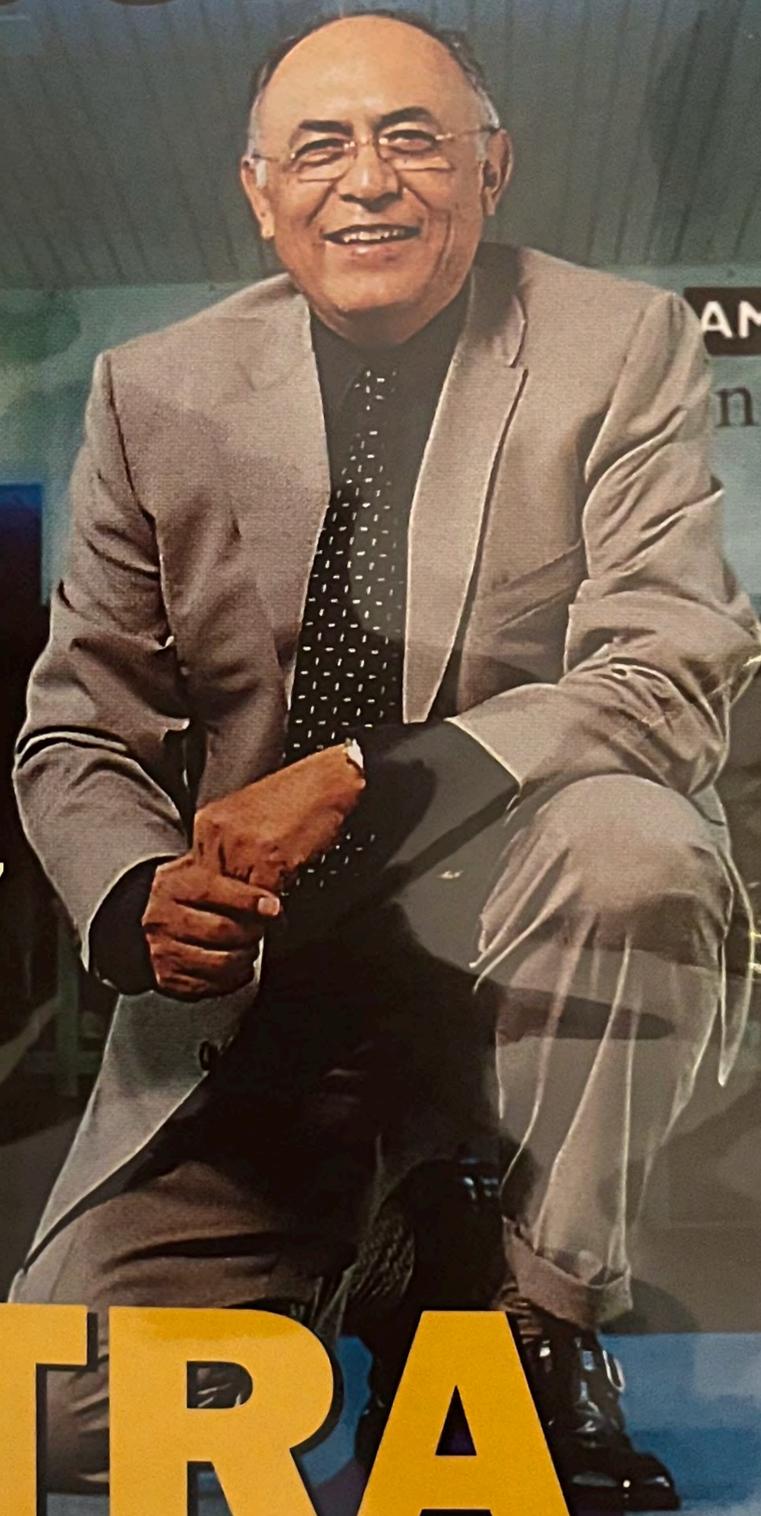
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**Héctor Ruiz,  
el mexicano  
que dirige AMD,  
se juega su empresa  
para vencer al "monopolio"  
del microchip.**



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## AMD is set to rebound, analysts say

Chip maker's stock surges amid popularity of Opteron

FROM WIRE REPORTS

NEW YORK — After two years of losses, is Advanced Micro Devices Inc. ready to turn the corner? Some top analysts said Monday that they think so.

AMD shares leaped more than 14 percent Monday after investment magazine Barron's reported that a longtime technology bear had become more positive on the stock, citing a powerful new chip that has won endorsements by some of the world's biggest technology companies.

IBM cuts 600 jobs; few Austin workers affected, D3.

The shares closed at \$8.91, up \$1.11 to an eight-month high, after heavy trading on the New York Stock Exchange. The shares are up more than 21 percent since January.

In its Saturday edition, Barron's reported that Fred Hickey, who writes the High-Tech Strategist newsletter, has been buying shares of the Sunnyvale, Calif., chip maker because major corporate support for its Opteron chip is gaining. Opteron is AMD's newest chip, running on a 64-bit architecture and targeted toward the business market.

Computer company IBM Corp. said last month that it will use Opteron in a big, new supercomputer. Sun Microsystems Inc. and software company Microsoft Corp. also have said they will use Opteron.

Meanwhile, Hickey said the launch next month of AMD's new desktop and notebook chip, Athlon64, will trigger endorsements from "major" original equipment manufacturers.

Chief executive Hector Ruiz is counting on Opteron to help reverse sliding sales by winning orders away from Intel Corp., the world's biggest

See CHIP, D3

## CHIP: AMD shares 'very attractive,' analyst says

Continued from D1

chip maker, in the market for semiconductors that run server computers. Opteron took four years to develop, and AMD began shipping the chip to customers in April.

"They've come through the worst of it," said Dan Scovel, an analyst at Needham & Co. who has a "buy" rating on AMD shares. "Finally, in 2004, these new chips are going to start bringing home the bacon."

AMD lost \$286 million in the first half of the year but has forecast that overall sales this quarter will rise at least 27 percent from last year. The company, which employs about 3,000 people in Austin, has cut jobs and combined its flash-memory chip operation with Fujitsu Ltd.'s to lower costs.

Michael McConnell, an analyst at Pacific Crest Securities, says he agrees that the launch of Opteron likely will be successful and that AMD shares are "very

attractive."

According to McDonnell, who doesn't own shares of AMD, the company not only will benefit from its product launches but will see improvements in its flash-memory business, now that the SARS epidemic has abated in Asia. The SARS outbreak hit AMD particularly hard because it sells to a large number of so-called white box computer makers in that part of the world, where businesses were disrupted by the disease.

## AMD Is Making A 64-Bit Bet On Its Future

By DON CLARK

HECTOR RUIZ, chief executive officer of Advanced Micro Devices Inc., recently presented several top lieutenants with a small piece of stone. Each had a simple engraving—two dates on which the company has pledged to introduce versions of a long-delayed line of computer chips dubbed Hammer.

The message was clear: AMD can't afford any more schedule slip-ups.

"Every one of our key players knows the importance of these dates," Mr. Ruiz says. "This is the most important product launch in the history of the company."

The first test comes tomorrow, when the Sunnyvale, Calif., company introduces an initial model of the new chip line designed to make AMD a major player for the first time outside of personal computers. The Opteron chip is tailored for central computers called servers and for powerful desktop computers known as workstations. A version for PCs is scheduled to launch in September.

If the Hammer chips live up to their promise, AMD could significantly weaken Intel Corp.'s influence over one of the industry's major technology transitions. Where Intel is pushing a new chip that is adept at processing 64 bits of data at a time—up from 32 bits on most of its server chips—AMD is offering customers an easier transition with chips

Please Turn to Page B4, Column 5

## AMD Bets Its Future on a Chip

Continued From Page B1

that handle both kinds of computing well. Both companies are eager to accelerate corporate adoption of 64-bit servers, which are now mainly built with costly proprietary technology.

In one potential coup, International Business Machines Corp. is likely to endorse Opteron at a large gathering AMD is holding in New York for media and analysts, say people familiar with the matter. AMD and IBM officials wouldn't comment on that possibility. Oracle Corp. also will announce plans to make versions of its database and applications programs for Opteron-powered computers, says Doug Kennedy, a vice president at the software company.

For Mr. Ruiz, however, the announcements are also about building credibility. Since the early 1980s, the 34-year-old company has followed Intel, whose microprocessor technology powers four-fifths of the world's computers. AMD, under flamboyant founder Jerry Sanders, typically offered chips with roughly the same capability as Intel's but at a lower price.

Yet AMD has frequently stumbled in the manufacturing process. It twice delayed the launch of the Hammer line, without giving a detailed explanation.

Mr. Ruiz inherited the legacy of stumbles, and billions of dollars in cumulative operating losses, when he took the CEO job last year from Mr. Sanders, who remains chairman. While urging his engineers to finish Hammer, he has pushed other executives to court makers of computers, circuit boards, software and programming tools needed before sales can take off. "We have to create an ecosystem around AMD technology," Mr. Ruiz says.

Selling Opteron is particularly hard. Where AMD has about one-fifth of the market for chips used in PCs, its share in server systems is only about 5%.

Most server makers that will initially support Opteron are small specialists in technical markets, such as Einix Inc. and RackSaver Inc. Other big-name companies are expected to reserve judgment about using the chip, or at least hedge their bets. IBM, for example, has computers that use its own chips as well as Intel's, and is likely to keep doing so even if it begins selling additional systems based on Opteron, notes Kevin Krewell, an analyst at In-Stat/MDR, a market-research firm in Scottsdale, Ariz.

Indeed, with Intel's ability to offer customers hefty discounts, ad subsidies or other inducements, Mr. Ruiz and the new chip line face challenges that have as much to do with backroom lobbying as technology.

Mr. Ruiz, 57 years old, certainly doesn't come across as a wheeler-dealer. Where Mr. Sanders was famous for Bel-Aire mansions, fancy cars and deft salesmanship, his successor is a soft-spoken operations specialist who grew up in a Mexican border town and learned English by doing chores for a Methodist missionary. Mr. Ruiz joined AMD after a 22-year career at Motorola Inc., where he

earned a reputation as a cost cutter.

He has had to wield the knife at AMD as well, slashing 2,000 jobs last November. The company was hurt last year by a slump in computer sales, excess chip inventories and stiff pricing pressure by Intel, which has more than 10 times AMD's revenue and cash. The industry leader, based in nearby Santa Clara, Calif., has invested heavily in production technology that allows it to rapidly boost the speed of its Pentium chips.

Intel officials are spending heavily to stretch its eight-year lead in server chips. "We have thousands of employees in software," says Lisa Hambrick Graff, its director of enterprise processor marketing. "We have thousands of employees in testing and validation."

Still, customers have been tepid in response to Itanium, the company's first attempt to move into 64-bit computing. That newer technology allows computers to tap vastly larger pools of data stored in memory chips. But Itanium, designed with help from Hewlett-Packard Co., took nearly a decade to perfect and its offers little advantage in running 32-bit software.

AMD, by contrast, added the new technology to chips also designed to offer high performance on existing 32-bit programs. While offering an alternative to Itanium, AMD also is competing with Intel's 32-bit Xeon line by throwing in 64-bit capability as a free feature that customers can exploit later. It is expected to unveil three Opteron models this week, along with data that show them beating Intel's fastest Xeon chips in some performance tests.

In AMD's view, corporate computer rooms that operate racks of 32-bit and 64-bit systems will eventually give way to one type of hardware that can run both types of programs and is less costly to maintain.

Mr. Ruiz and his team have already exploited the industry's shifting allegiances. They convinced Microsoft Corp., Intel's biggest partner, to support Hammer in future versions of the Windows operating system, expected out by late this year. And IBM, as a result of a deal announced in December, is letting AMD engineers move into IBM facilities to jointly work on future chip-manufacturing processes.

## RUIZ FLIES HIGH AT AMD

**Hector Ruiz '73 is president and chief executive officer of Advanced Micro Devices (AMD), a global supplier of semiconductors, a Fortune 500 company, and Intel's chief rival in a brutally competitive industry.**

So what's it like to go to work and sit at the helm of AMD every day? "It's a lot like flying an airplane," says Ruiz with a laugh. "Ninety-five percent of the time, it's fairly routine, but five percent of it can be sheer terror."

The routine part, he explains, is keeping an eye on the books and handling day-to-day business matters. The scary part is "the realization that you're responsible for the livelihood of 13,000 employees and that the decisions you make will affect not only the investors but the many communities where we build our products."

"Still," he adds, "we're creating technologies that make life better for us all. So it's an exciting industry to be in. I love the job." AMD's processors power everything from mobile PCs to new generations of servers, and the company's flash memory is critical to many of today's cell phones, pagers, and automotive control systems.

Ruiz has reached the pinnacle of his profession. But in his climb to the top, he had to make an astonishing journey from the Mexican border town of Piedras Negras, where he grew up poor, his father a ranch worker, his mother a secretary. Ruiz's early ambition: to be an auto mechanic. At age 15, for-

tune smiled on him, and he met a missionary, Olive Givin, who taught him English in exchange for housework. She also encouraged Ruiz to attend high school, which he did by walking 45 minutes each way daily across the border to Eagle Pass. He excelled in school, and by the time he graduated, he was named valedictorian of his senior class.

As if she hadn't done enough, Givin paid for Ruiz's first year at the University of Texas, where he received bachelor's and master's degrees in electrical engineering. Ruiz then pursued a doctorate in electrical engineering at Rice. Forever grateful to the missionary, he dedicated his dissertation to her.

Ruiz's experience at Rice was a happy one. The teachers and students felt like a family, and his sense of self-worth flourished. From the school's strong honor system, he learned the value of trust. "If you trust people," he asserts, "you get a lot more than you might expect."

After he graduated in 1973, Ruiz went to Texas Instruments in Dallas, where he worked for five years in research laboratories and manufacturing operations. In 1977, he joined Motorola as an operations manager in a semiconductor facility in East Kilbride, Scotland. He quickly rose through the ranks

and became president of the worldwide Semiconductor Products Sector. While engineering a landmark technology-sharing agreement with AMD, Ruiz met the company's founder, W. J. Sanders III. Impressed with his technical savvy and leadership qualities, Sanders handpicked Ruiz as his company's new president and heir apparent in January 2000. Ruiz lives in Austin and commutes regularly to company headquarters in Sunnyvale, California. AMD has about 25 engineers from Rice, and "they're all pretty outstanding employees," he says.

Ruiz stays in touch with Rice faculty and speaks periodically at the university. He enjoys being a role model for Hispanic students, and he applauds Rice's efforts to reach out beyond the hedges. "I would like to see Rice reach out even more and let people know what a great place it is," Ruiz comments. "It's still a well-kept secret." He thinks Rice has the potential of fulfilling a role very much like Stanford's in spawning new high-tech business ventures. "Stanford is filled with faculty who think that new ventures are good for students, good for the school, and good for the country," says the AMD president. "Rice might need a little more of that attitude."

# With new chip, AMD renews war with Intel



About 1,000 Austin workers had a hand in Athlon 64 processor

By Matthew Fordahl  
ASSOCIATED PRESS

SAN JOSE, Calif. — Advanced Micro Devices Inc. launched its much-hyped and much-anticipated Athlon 64 desktop computer processor Tuesday.

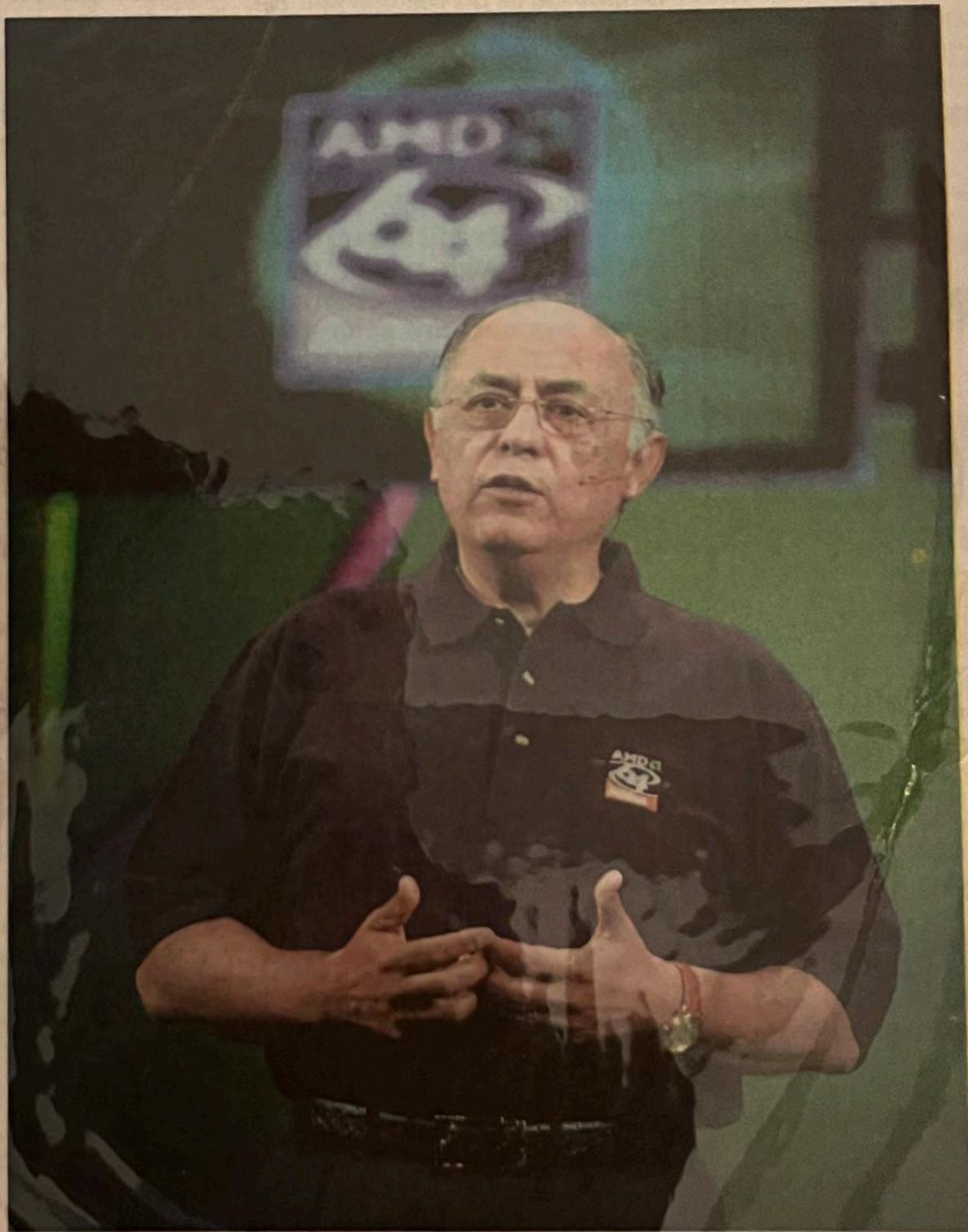
The chip's debut sets the stage for renewed competition between AMD and its longtime nemesis, Intel Corp., the world's largest semiconductor company.

The new chip is big news for AMD's Austin operations, which employ about 3,000 people. AMD executives estimate that more than 1,000 workers in Austin were involved in the design, testing, support, marketing and sales of the new chip and its companion, the 64-bit Opteron, which is aimed at high-powered server computers. The chips are manufactured at AMD's factory in Dresden, Germany.

The showdown is as much about competing standards as competing companies.

Athlon 64 — so named because the chips process data in 64-bit chunks — can handle exponentially more information than the 32-bit standard used by Intel's Pentium 4 chips. The 64-bit standard has long been used in systems that house corporate networks,

See **CHIP**, C3



Noah Berger photos ASSOCIATED PRESS

Hector Ruiz, president and chief executive of Advanced Micro Devices Inc., speaks Tuesday in San Francisco at the launch of the company's Athlon 64, a processor that AMD is betting will be a hit. Ruiz says 'now is the time' for the 64-bit chip, although rival Intel Corp. disagrees.

## A history of big-bet chips by AMD

**1991:** AMD 386. Intel clone was well-received.

**1993:** AMD 486. Despite a legal battle with Intel, souped-up chip was a hit.

**1995:** K5. Long on hype, short on speed. First processor chip AMD

built from scratch. A miss.

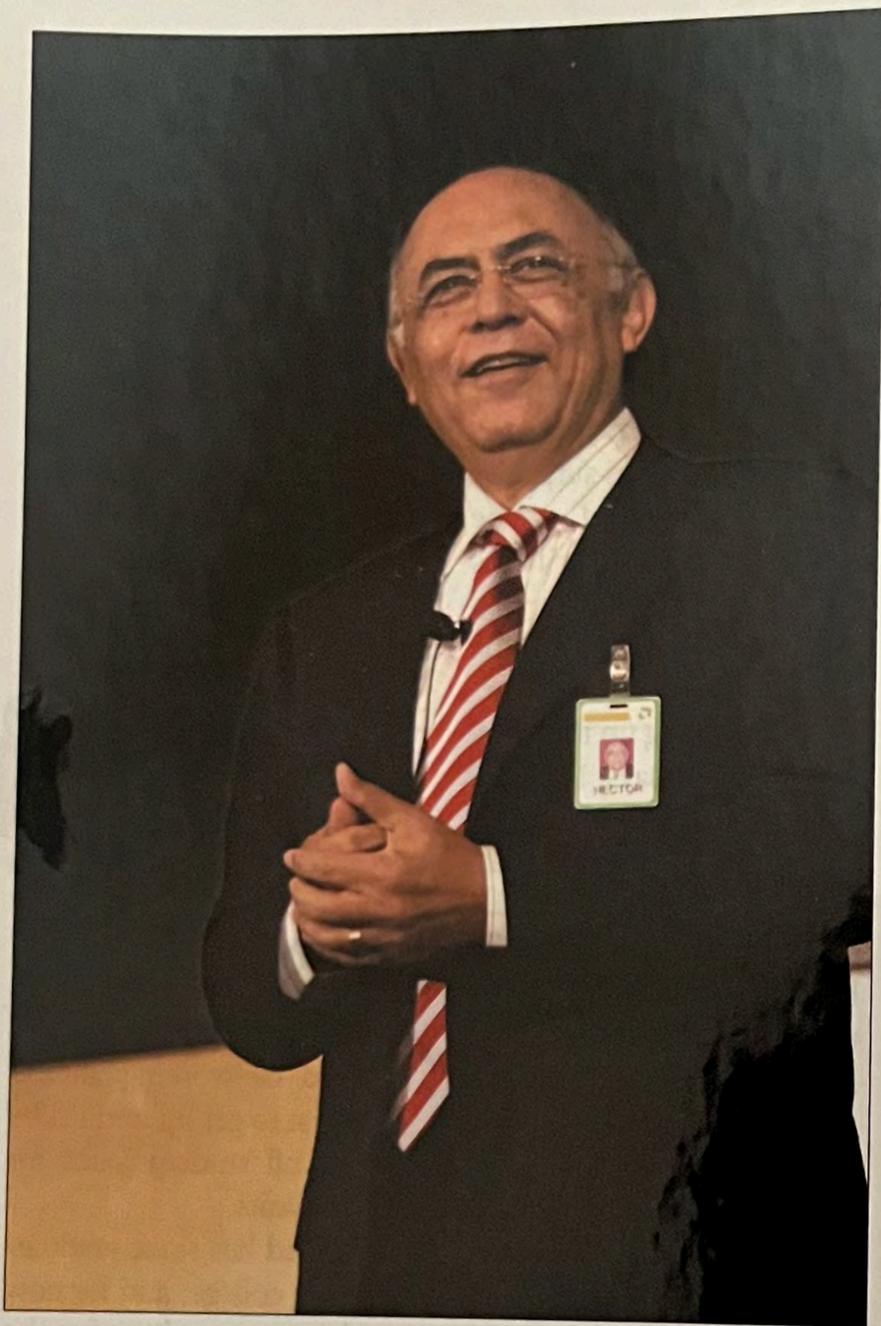
**1997:** K6. Got AMD back in the game, but had a hard time time keeping up with Pentium. Mixed reviews.

**1999:** Athlon. A hot chip that helped keep AMD competitive, but Pentium 4 soon sprinted ahead. A bit

**2003:** Opteron. AMD's first server chip offers 32- and 64-bit capability. Jury is still out.

Athlon 64. Speedy; opens a new chapter in Windows desktop chips with 64-bit capability. Stay tuned.

American Statesman staff



## Advanced Alum

Hector Ruiz, head of Advanced Micro Devices, credits his days at UT with his success ★ by Tim Walker

“Scary.”

That was Hector Ruiz’s first impression of Austin. It was nearly 40 years ago when Ruiz first came to Austin from his hometown of Piedras Negras, Mexico. He had reason to be daunted: “Austin looked like a big town. I never had been to Austin

before the day I went to school.”

Ruiz has made his home in Austin now for many years, and spends part of his time here in his role as CEO of Advanced Micro Devices (AMD). The microchip maker is headquartered in Sunnyvale, Calif., but has a big part

**Hector Ruiz was the first member of his family to go to college. He is now CEO of Advanced Micro Devices.**

of its operations here, so he shuttles back and forth.

Ruiz was born on Christmas Day, 1945, the first child of two bookkeepers. His parents later had four daughters, all of whom became schoolteachers. (It’s not hard to imagine Ruiz, with his calm demeanor and quiet humor, as a schoolteacher or, more likely, a college professor.) His mother later started a business, a bookstore that she still runs.

Hector Ruiz was the first member of his family to go to college. His transition into UT and life in the United States was eased by living at the old Stag Co-op at Rio Grande and 19th. He says he lived there because it was the only place he could afford, but it turned out to be a stroke of “pure luck.” His housemates were very helpful to him, and the co-ops’ role as what he calls a “poor man’s frat houses” improved his social life.

Friday nights featured music and dancing at the old Chuck Wagon cafeteria, and Ruiz remembers getting into the movie theater for a nickel. He had the co-op to thank for more than a few parties: he met his first wife, Judy, at a mixer with a women’s co-op. They married his junior year. (His first wife died of leukemia. Ruiz later married another Judy.)

For all the fond memories of his co-op days, Ruiz admits there wasn’t all that

much spare time for socializing; he was too busy with his coursework and a part-time job as a grader for engineering drawing classes. He recalls interviewing for the job and being told he lost out to another candidate who spoke better English. But it turned out that the other fellow wasn’t diligent, so a short time later the hiring professor came back to Ruiz and gave him the job. After Ruiz showed his merit on the job, that professor told him, “I should have hired you from day one,” and later bought him a drafting kit.

Ruiz was waiting to collect a paycheck at the Bursar’s office in the base of the Main Building in August of 1966 when sniper Charles Whitman began shooting from the top of the Tower. After police took Whitman down, Ruiz made his way back to the co-op, and one of his housemates came home covered in blood — not because he had been shot but because he was helping those who had.

As Ruiz recalls it, UT’s Latino population was low, at least in engineering. He says that he was one of two Latinos in his co-op, and that there were “few or none” besides himself in his classes. Ruiz did not let it slow him down: he received a bachelor’s degree in electrical engineering in 1968 and a master’s degree the next year. He went to Rice for a PhD.

He planned to return to Mexico when he finished his schooling, and only made the decision to stay in America once he finished his PhD in 1972. The decision was prag-



OutFront

## I Opt for Opteron

Elizabeth Corcoran Quentin Hardy, 03.15.04

### Scrappy AMD has finally trumped Intel, for now

For the first time in decades perennial underdog Advanced Micro Devices has one-upped the chip king, Intel Corp. One of AMD's latest microprocessors, Opteron, is winning over loyal Intel customers, and Intel has now conceded it must match it. Just how seriously Intel miscalculated the needs of business customers became clear in late February when HP, Intel's longtime partner and a codeveloper of its top-of-the-line Itanium chip, said that it would begin using Opteron as well as Intel chips in its low-end and midrange servers.

The HP announcement followed similar declarations by the likes of Sun Microsystems, IBM and Fujitsu Siemens—in fact, virtually all the big computer makers except Dell have opted for the 64-bit Opteron. Says Richard Marcello, HP's senior vice president of business-critical servers, "The fundamental reason we picked Opteron right now is that the overall performance is very good."

In the year since Opteron's arrival, AMD has come from nowhere to become a contender in business computing. Sunnyvale, Calif.-based AMD has at least another few months to gallop unchallenged through the selling fields. Intel Chief Executive Craig Barrett has said his Opteron-beater won't be ready until midyear. Quips Hector Ruiz, AMD's chief executive: "We are happy that our competitor sees the advantages of AMD64 and has decided to try and adopt a similar strategy."

Right now AMD's share of the \$11 billion market for chips that power midrange servers is tiny, says analyst Nathan Brookwood with Insight 64 in Saratoga, Calif. The company could capture \$680 million in sales this year and up to \$2 billion in 2005, with juicy 80% gross margins, he says. AMD needs the boost. In fiscal 2003 it lost \$274 million on sales of \$3.5 billion.

Sacrificing a billion dollars to AMD is a flesh wound for Intel, which grossed \$30 billion last year. But the psychic gash is deep. Opteron doubles, from 32 in the last generation, the number of bits that a microprocessor handles at one time. As a result it increases, from 4 billion bytes to a number 4 billion times as large, the amount of memory that can be used by software running on the chip. Intel spent a decade and, by at least one estimate, more than \$1 billion developing the Itanium, its own 64-bit chip, but has had trouble getting customers to use it.

Intel's tactical blunder was in breaking with its tradition of designing chips to run old software. "Intel thought that being Intel, it could force everyone to switch" to the new design, says Linley Gwennap, a longtime chip analyst who heads The Linley Group in Mountain View, Calif. "Intel didn't think there would be an alternative," he adds.



"Hector turned out to be as managerially savvy as he turned out to be. All the detractors said they would never get this far."

— RICK WHITTINGTON, CARIS & CO. ANALYST



PATRICK TEHAN — MERCURY NEWS

Hector Ruiz, chief executive of Advanced Micro Devices, is shown Tuesday in the company's Sunnyvale headquarters.

# AMD chipper over success

COMPANY DELIGHTS IN HAVING INTEL FOLLOW ITS LEAD FOR A CHANGE

By **Therese Poletti**  
*Mercury News*

An employee bulletin board at Advanced Micro Devices' Sunnyvale headquarters features news stories highlighted in yellow by giddy workers.

"Intel clones AMD!" announced a worker's handwritten introduction to articles that blare headlines such as

"Where AMD Goes, Intel Follows" and "AMD's Opteron Chip Puts Pressure on Rival Intel."

Suffice it to say, the mood over at AMD these days is decidedly upbeat. Long dismissed as the me-too No. 2 to industry leader Intel, the much smaller computer chip company is having its day in the sun. The company that was long derided for cloning

Intel chips, is again challenging, and at times, leading the way in chip technology.

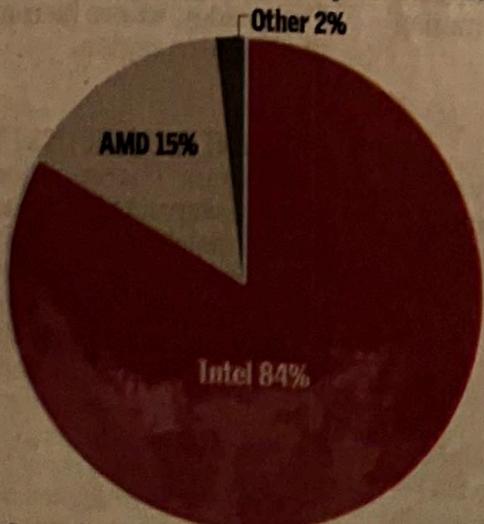
"On a couple of key initiatives, AMD has been in the lead and Intel has been put in the position of being a follower," said Kevin Krewell, editor in chief of the Microprocessor Report

See AMD, Page 6C

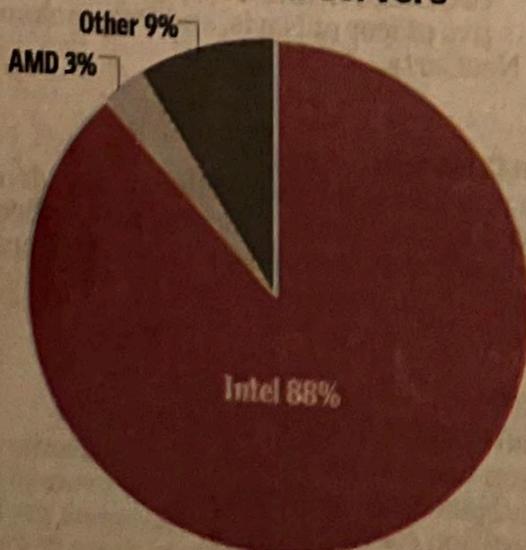
## AMD fighting for a bigger piece of the pie

How the computer chip market share was split in the first quarter of 2004:

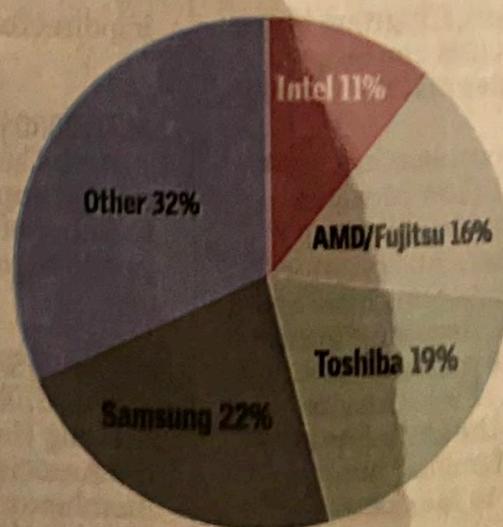
**Personal computer processors**



**Processors in servers**



**Flash memory chips**



Source: Mercury News research



Who's In, Who's Out In Channel Management p 22

Health-Care Provider Discovers Wireless Cure p 67

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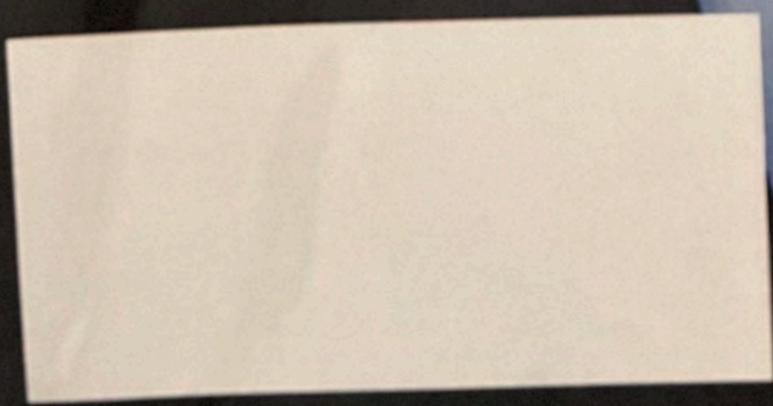
# var Business

TECHNOLOGY INTEGRATORS

8•23•04

## To Heck With Intel?

**AMD CEO**  
Hector Ruiz has a credible alternative to Intel. His 64-bit strategy is gaining momentum while taking advantage of his chief competitor's miscues



**SPECIAL REPORT**  
**14** New Printers For Fall p.59



# AMD in alliance with DreamWorks

Deal with animators is part of chip maker's strategy to boost role in entertainment

By David Ho

NEW YORK BUREAU

LAS VEGAS — Advanced Micro Devices Inc. chief executive Hector Ruiz boosted his company's campaign to become the entertainment industry's preferred technology provider Monday, announcing a partnership with the DreamWorks Animation SKG Inc. studio in a speech to broadcasters.

"I predict a renaissance in how you create, publish, distribute and consume media and digital entertainment," Ruiz said in a keynote address at the National Association of Broadcasters annual show.

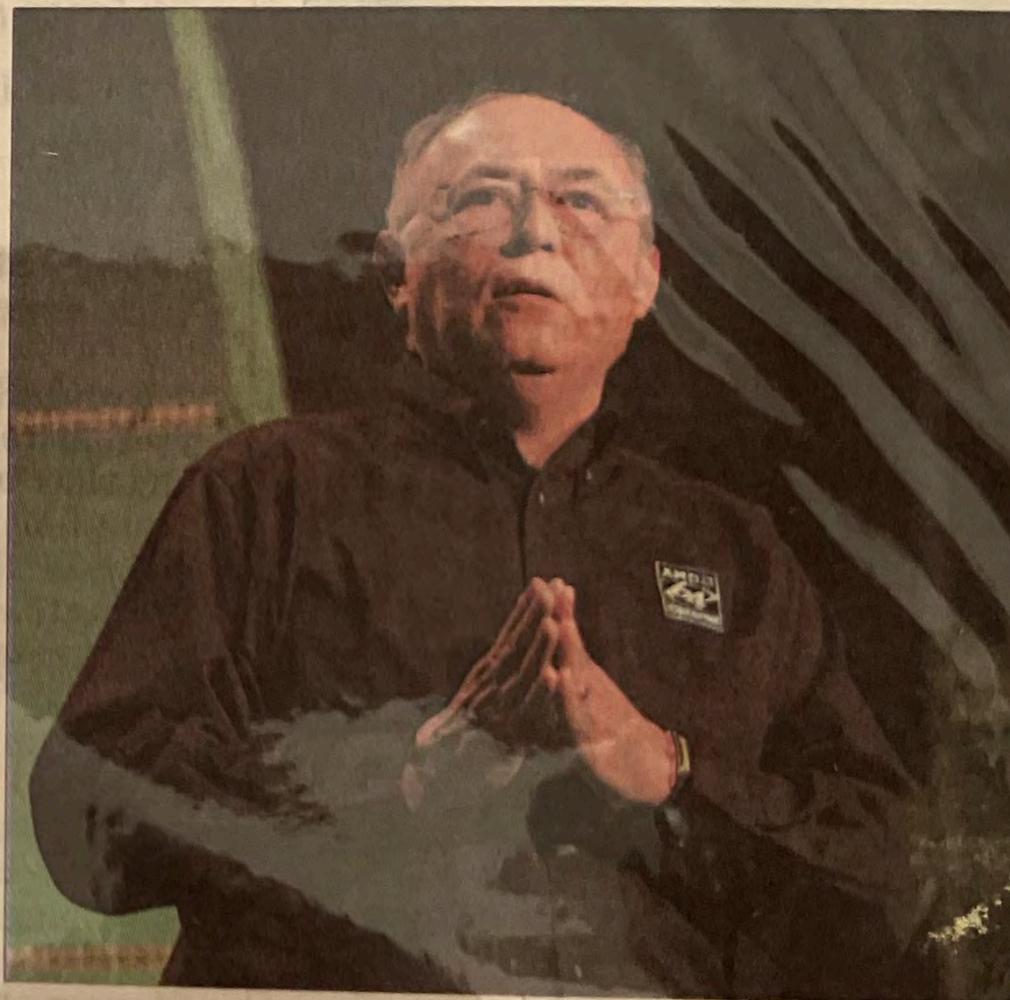
AMD, a distant second behind Intel Corp. in the microprocessor market, has sought to establish a foothold in the music, film and television production industries.

The strategy involves both sales and image. AMD wants to promote itself as the provider of choice for sophisticated, discriminating and high-profile users, such as rock musicians and the animators that DreamWorks employs.

Meeting the creative community's demanding computer needs, which often drive broader technological advances, makes AMD stronger and helps define the company as an industry leader, Ruiz said in an interview after his speech.

"All of these things are going to find their way to the consumer," he said. "I would like to think that if you walk into

See **DEAL**, C3



Advanced Micro Devices Inc. chief executive Hector Ruiz announces a partnership Monday with the DreamWorks Animation SKG Inc. studio in a speech to the National Association of Broadcasters in Las Vegas. The move is part of the company's campaign to become the entertainment industry's preferred technology provider.

Barry Sweet  
BLOOMBERG NEWS

## DEAL: AMD marketing can use studio's creatures

Continued from C1

a computer store a year or two from now, you have a chance to

Opteron chips  
already have been

largest crowd of computer-generated furry creatures — more than 900 moving lemurs — in a single scene. Animation

with AMD, comparing it with "years ago when we were dealing with the dark side of a different company."

# AMD states case loud and clear

## Chip maker's battle against Intel gets very public display

By Laurie J. Flynn

Hector Ruiz would like you to understand exactly why his company, Advanced Micro Devices, is suing Intel, its larger and much-better-known rival. But short of that, he would like to make sure that you have at least heard of AMD.

To accomplish this, AMD, the second-largest maker of microchips for personal computers, last week took out full-page ads in several U.S. newspapers, including The New York Times, The Wall Street Journal and The Washington Post, as well as The San Jose Mercury News, the local paper for Silicon Valley in California. Banner ads are still running on several business Web sites.

The ads, titled "The Intel Antitrust Suit: Why AMD Filed," reiterated the allegations in the lawsuit that AMD filed against Intel last week: that Intel has harmed competition in the chip industry by bullying customers into accepting exclusive deals with Intel and threatening retaliation if they do business with AMD. (Gateway, for one, reportedly said that Intel had "beaten them into guacamole" in retaliation for doing business with AMD, the complaint states.) Much of the allegations surround Intel's practice of tying discounts on one of its products to purchases of another.

"For most competitive situations, this is just business," read the ads, which were created by Glover Park Group, of Washington. "But from a monopolist, this is illegal."

The ads featured a letter from Ruiz, AMD's chief executive, telling readers to go to [www.amd.com/breakfree](http://www.amd.com/breakfree), a Web site devoted specifically to the lawsuit. On the site is the 48-page complaint, which contains some vivid language, including, for example, a section in which a Toshiba executive says Intel's incentives are as addictive as cocaine. Unlike most lawsuits, this complaint was written as if actually intended for Web surfers with some spare time.

Clearly AMD was hoping to gain public support for its case. But David Kroll,

a spokesman for AMD who worked on the campaign, said the main goal was to simply to place AMD in the public consciousness.

"Many people aren't even aware of AMD outside of the technology space, so we felt like we needed to do something extra," Kroll said. "We saw it as a way to get our word out unfiltered."

Kroll said that the response to the ads had been encouraging, and that far more people had read the complaint than otherwise would have.

"As for driving traffic, it's been good," Kroll said, adding, "It's not easy to get people to read a lawsuit, but we want people to see there's a dark underside to Intel."

Dave Beermann, an Intel spokesman, said the ads were "not surprising, given

**'People aren't aware of AMD outside of technology, so we needed to do something extra.'**

the highly organized public relations campaign that AMD has embarked on" with its allegations.

David Balto, an antitrust attorney with Robins, Kaplan, Miller & Ciresi who is not involved in the case, said that AMD's ad campaign was unusual, and that the company clearly felt a need to reach consumers directly.

"Computer customers are interesting because they tend to be intelligent and care about what they're getting," Balto said.

AMD's complaint alleges that Intel's practices essentially keep AMD's technology from selling as widely as it might otherwise.

Besides the newspapers, the ad ran in both The Hill and Roll Call, two publications read by lawmakers and, presumably, antitrust investigators at the Federal Trade Commission. Given that the Japanese Fair Trade Commission recently ruled against Intel on similar allegations made by other companies, it is

hardly surprising that AMD's lawyers would want to get attention on Capitol Hill. In Japan, the agency ruled that Intel stifled competition by offering rebates to five computer companies, including Toshiba and Sony, in exchange for their limiting purchases from AMD and Transmeta. Intel has agreed to abide by the decision, but says it disagrees with it.

This is not the first time that Silicon Valley has used ads to try to win the public's favor during difficult times. Hewlett-Packard ran ads trying to garner public and shareholder support for its acquisition of Compaq during its proxy battle with Walter Hewlett, the former HP director, who ran his own full-page ads opposing the deal. HP, of course, was successful in its bid.

Likewise, Sun Microsystems ran ads to influence sentiment against Microsoft in its battle over Java. The two companies eventually settled. When Intergraph sued Intel for patent infringement in 1997 the company even established a Web site to make it easy for the public to view the progress of the case, which also was eventually settled.

In the case of AMD, Nathan Brookwood, editor of Insight64, a newsletter devoted to the chip industry, said the company was clearly trying to make the most of its position as the underdog.

"We tend to root for the Davids rather than the Goliaths," he said, "So AMD is trying to position itself that way."

As underdogs go, AMD could write a book on the subject. It has been nipping at Intel's heels for two decades, sometimes making headway while other times losing ground. Brookwood said the campaign was also intended to portray AMD as coming from a position of strength, rather than one of desperation. Right after AMD filed the suit, several financial analysts called it little more than a marketing ploy by a distant second-place contestant, and the ads were an effort to counter that notion.

Intel commands more than 80 percent of the unit sales and 90 percent of the revenues in the market for so-called x86 microprocessors, including those used in Windows and Linux computers. In its complaint, AMD, based in Sunny-



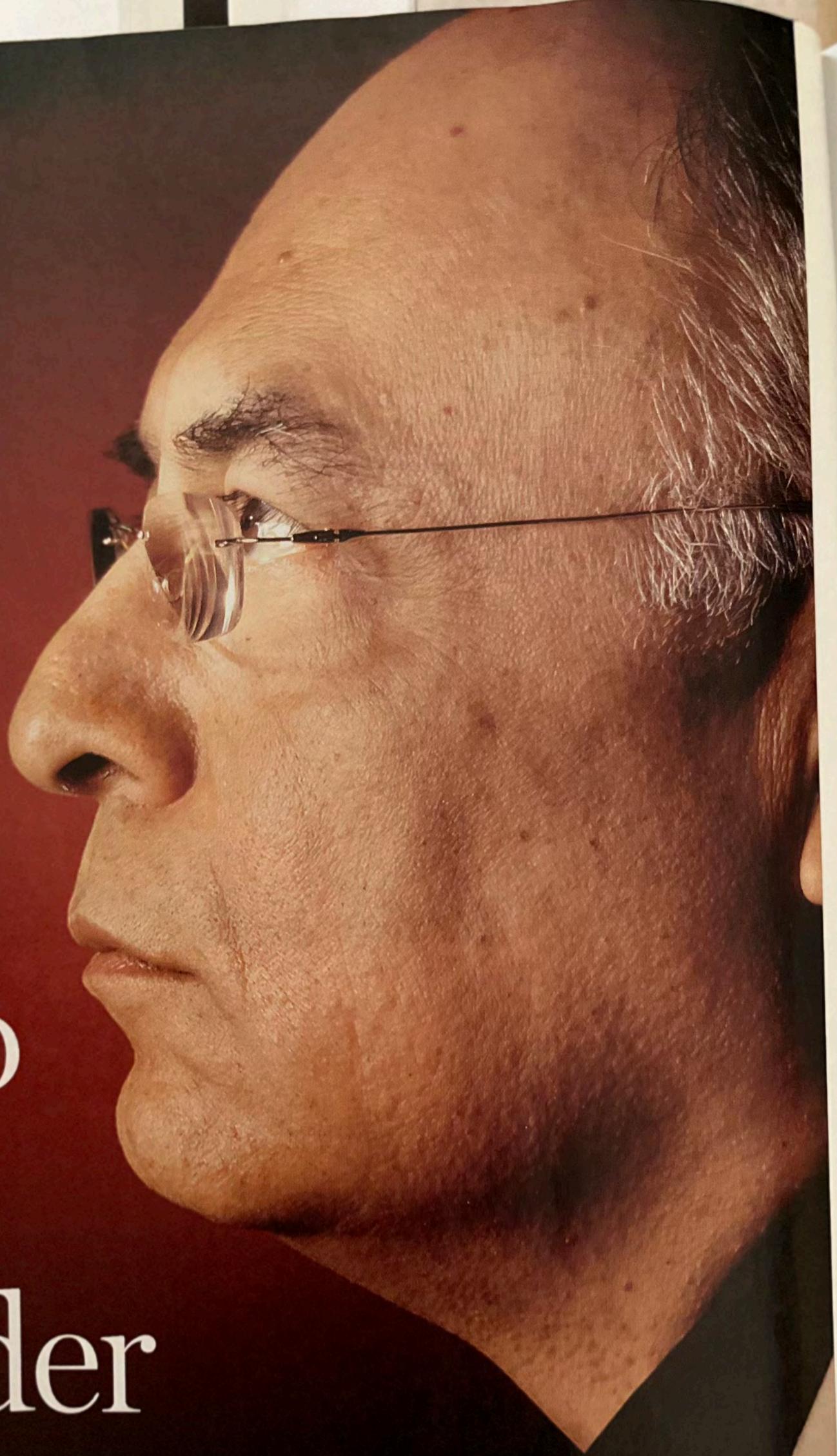
Hector Ruiz, chief executive, put AMD's suit against Intel on the company's Web site.

vale, California, says that its share of x86 unit sales peaked in 2001 at 20.8 percent and then declined to 15.8 percent by 2004 despite its technical advances, a situation it blames on Intel's unfair business practices.

AMD is arguing that given its technical progress the past few years, the

company should have had more gains in market share. The ads are an attempt to point out to consumers the cost to them. Because of Intel's behavior, the ad reads, "Purchasers lose their fundamental right to choose the best technology available."

The New York Times



AMD CEO Hector Ruiz

STRATEGY

# A Chip on His Shoulder

By Megan Barnett

**W**hen Trek Bicycle senior designer Michael Sagan was modeling Lance Armstrong's bike in 2000, he spent more time working from home than at the office. His personal computer, powered by a chip from Advanced Micro Devices, ran his design software applications more efficiently than the

Intel-based computers at the office, and he got more done at home. By 2003, AMD had formed a partnership with Armstrong's team, and today more than a dozen Trek designers and engineers use AMD-powered computers to create virtual wind tunnels to test and reduce drag on racing bikes. "With AMD machines, we've seen our design-cycle times come down by about 50 percent," Sagan says. The computers at Trek are being used for

graphics, Web and industrial design, and mechanical engineering.

AMD may be the biggest little chip company you've never heard of, and it is desperately trying to change that image. The Sunnyvale, Calif., company has been a distant second behind semiconductor behemoth Intel since the early days of computing. The two companies compete to build the internal brains of computers—the microprocessors that

Barron's Online

# BARRON'S Online

Saturday, September 24, 2005

## On AMD's Menu: Eating Intel's Lunch

By RHONDA BRAMMER

**THERE ARE A BUNCH OF REASONS WHY** you might be tempted to sell **Advanced Micro Devices**.

Not the least of them is that the stock of this plucky upstart, No. 2 to mighty **Intel** in microprocessors, has run from 7 and change a little over three years ago when we did our first feature on the company to a shade under \$25 and is still around 23. Taking a profit is usually not a bad thing to do.

Or perhaps you're worried that demand for personal computers, which has been robust for a spell now, just may -- in spite of what upbeat industry pundits predict -- be ready to roll over, and that obviously would not be good news for the chip makers generally.

Or, understandably, you might be concerned that AMD's flash-memory business, which accounts for about 40% of total sales, is capital-intensive and losing a ton of money.

But this time, it truly pays to resist temptation.

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### DOW JONES REPRINTS

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Pure and simple, the prospects for Advanced Micro Devices have never been brighter. While semiconductor stocks are always subject to bouts of vertigo and AMD would suffer with the rest if, say, PC sales started to flag, it would still likely fare better than the competition because it's gaining market share in high-end processors at a dazzling pace.

Moreover, the company is busily moving ahead with a plan to spin off the flash-memory biz, known as Spansion, which would greatly ease that formidable drag.

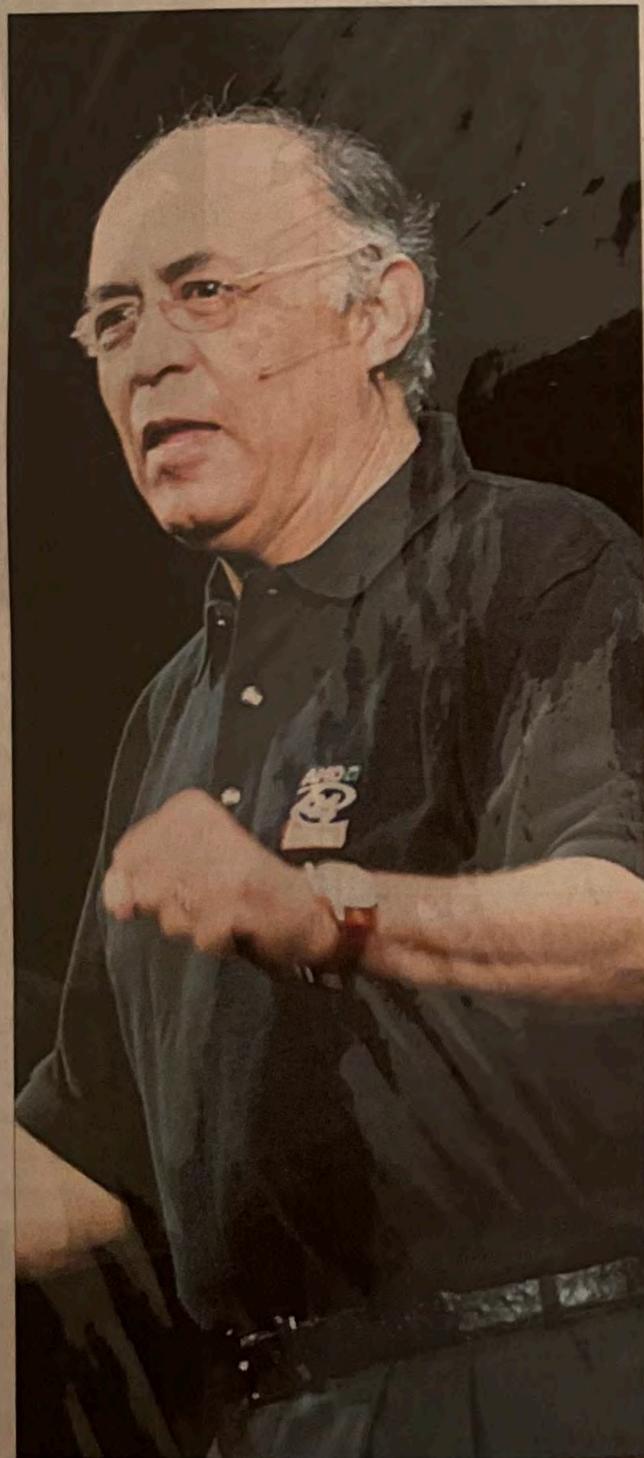
Buoyed by the smashing success of its innovative new products that have left Intel (INTC) scrambling to catch up, AMD is in a strong position to rack up impressive gains this year, as far as the

THE TIMES  
LEADERSHIP FORUM

# The man Intel loves to hate

**The remarkable story of a Mexican immigrant who wants to change the rules of the global semi-conductor business.**

*By Charles Assisi*



**I**t's tempting to imagine tough men don't think much of guardian angels. Certainly not men like Hector Ruiz, the soft-spoken CEO of semi-conductor manufacturer AMD. But he does. And there is a good reason why. The impoverished Mexican from Piedras Negras, a town that borders Eagle Pass in Texas, came out of nowhere, challenged the rules in a ruthless business and eventually gave Intel, the industry leader, a bloody nose. After three decades of playing second fiddle, it took Ruiz barely four years to catalyse a war that now promises to be an epic one.

But getting this far was never easy. The poor critter guarding Ruiz had to work awfully hard to keep the man going. When he first walked into AMD in 2000, the company was in a mess.

The move met with raised brows in the business. Ruiz had just had a phenomenal run at Motorola for 22 years. When he rose to head the semi-conductor business at the company, he had an unenviable job on hand. Eventually, over three years, Ruiz gave 21,000 people the marching orders. His style generated resentment and the media dubbed him Hector the Dissector. Motorola survived. So did Ruiz. He was well on his way to the top job.

## The Turning Point

What Ruiz didn't know of was Jerry Sanders intentions. Mercurial and flamboyant, Sanders, a Silicon Valley legend co-founded AMD in 1969. The company survived Intel, the most dominant player in the business, by delivering chips that offered the same performance at a cheaper price. There was only one problem with this approach. It relied on replicating all that Intel did. AMD, however, couldn't be faulted for not trying. It tried hard to innovate. But Sanders didn't have a clue how to take the innovation to market.

Then there was Sanders himself AMD had to contend with. The man who drove to work in a Rolls Royce kept the reins of the company tightly to himself. It earned AMD the ignominy of being named on Fortune magazine's list of companies with the worst management board in corporate America.

Precisely the reason why many wondered why did Sanders court Ruiz. They were as apart as chalk and cheese. But Sanders for all his flaws, was also a brilliant man. He knew AMD didn't need somebody like him to lead it. It needed somebody sane; somebody who understood systems, appreciated innovation and motivated people; a man like Ruiz.

Born into extreme poverty, Ruiz's father didn't have the wherewithal to summon medical help when his

mother was expecting Hector. Finally, a kind doctor intervened and a grateful couple named their son after him. Because it was Christmas day, the devout Roman Catholic family chose de Jesus as his middle name. That was his first brush with an angel.

As a 15-year old, Hector de Jesus Ruiz played in a local rock band and dreamt of growing to be an auto mechanic. The dream drove him into Olive Givins home. A local American missionary, she was looking for somebody to run the odd-errand and keep her house in order. Ruiz wanted the job. In return for which, he hoped, she would teach him English. Books on automobiles in his native Mexican weren't easy to come by. The lady agreed.

It didn't take her long to figure she had a bright kid on her hands. She suggested he go to school across the border. If that's what it takes to be a mechanic, thought Ruiz, then so be it. Armed with \$25 every month that Givin provided, Ruiz trekked across the border, daily. Eventually, he went to college and earned a doctorate in electrical engineering. He finally dedicated his thesis to Givin. That was his second brush with an angel.

He then worked six years at Texas Instruments. Motorola followed, until Sanders weaned him away.

## The Ruiz way

Those were the days when Intel was working on a new processor it called the Itanium. It differed significantly from the previous generation of processors that could deal with only 32 bits of information. The Itanium could do twice as much. Once Intel got there, Sanders knew AMD would wither away in a few years. Which is why, he tried to focus his efforts on getting there first. But his track record of successful implementations was an impediment. This is where Ruiz fitted in.

Ruiz knew Sanders was right on the technology. But the problems were elsewhere. AMD wasn't selling its products right. It focussed first on selling to retail users of desktop computers. Original equipment manufacturers (OEMs) who made laptops and servers that power backbone networks like the internet were not on its radar. This left Intel with a clear playing field. Among the first things Ruiz did was to turn AMD's approach on its head.

For a company used to a different pace, this was a shock. But Ruiz had learnt his lessons well from the days at Motorola where he was reviled for making tough decisions. He opened up new channels of communication across the rank and cadre of the company. Overnight, people

from the company could meet the boss without an appointment. His photographic memory snapped up names and profiles of people as they walked in. He also did away with a weekly session his predecessor presided over—Breakfast with Jerry Sanders. Instead, he simply called it a breakfast meeting.

Of course, his penchant for tough decisions hadn't jaded. Soon after he moved in, the dot com boom went bust and technology went into a downward spiral. Ruiz responded by laying off 4,500 people and shutting down two factories. The worst was still to come. In 2002, the company hit its worst point. On revenues of \$2.7 billion, it lost \$1.3 billion. That didn't deter Ruiz from ploughing an astounding 30% of revenues into research and development and acquiring two small chip companies.

The ruthless persistence paid off when his engineers unveiled a new 64-bit chip for servers called Opteron in April 2003. A few months later the Athlon 64 for its more traditional desktop market followed. It met with rave reviews and found new takers like Microsoft, which was until that point, a traditional Intel ally.

Thanks to some missteps on Intel's part, its offering, the Itanium was trashed. Intel grudgingly conceded the round. For the first time, Intel started to work on a strategy similar to AMD's.

Early this year, Ruiz fired another salvo at Intel. He dragged it to court for unlawful business practices. The complaint alleges that Intel resorted to bribery and threats to keep virtually every PC manufacturer in the world from using AMD's chips. If the courts rule in AMD's favour, analysts reckon the industry will finally be on its way to be a duopoly.

Since then, more successes followed. Earlier in June, AMD finally convinced Hewlett-Packard and Acer to start shipping with processors powered by AMD. Until then, this was Intel country.

AMD now makes profits. But the overworked guardian angel still sees no respite. Intel is still ten times larger than AMD. The war, for Ruiz, has only begun.

*Dr Hector Ruiz will address a select group of CEOs at The Times Leadership Forum at the Poolside lawns, Hilton Towers, Mumbai on December 1.*

*Asim Ghosh, managing director, Hutchison Essar, will engage Dr Ruiz in a dialogue on leading innovation*

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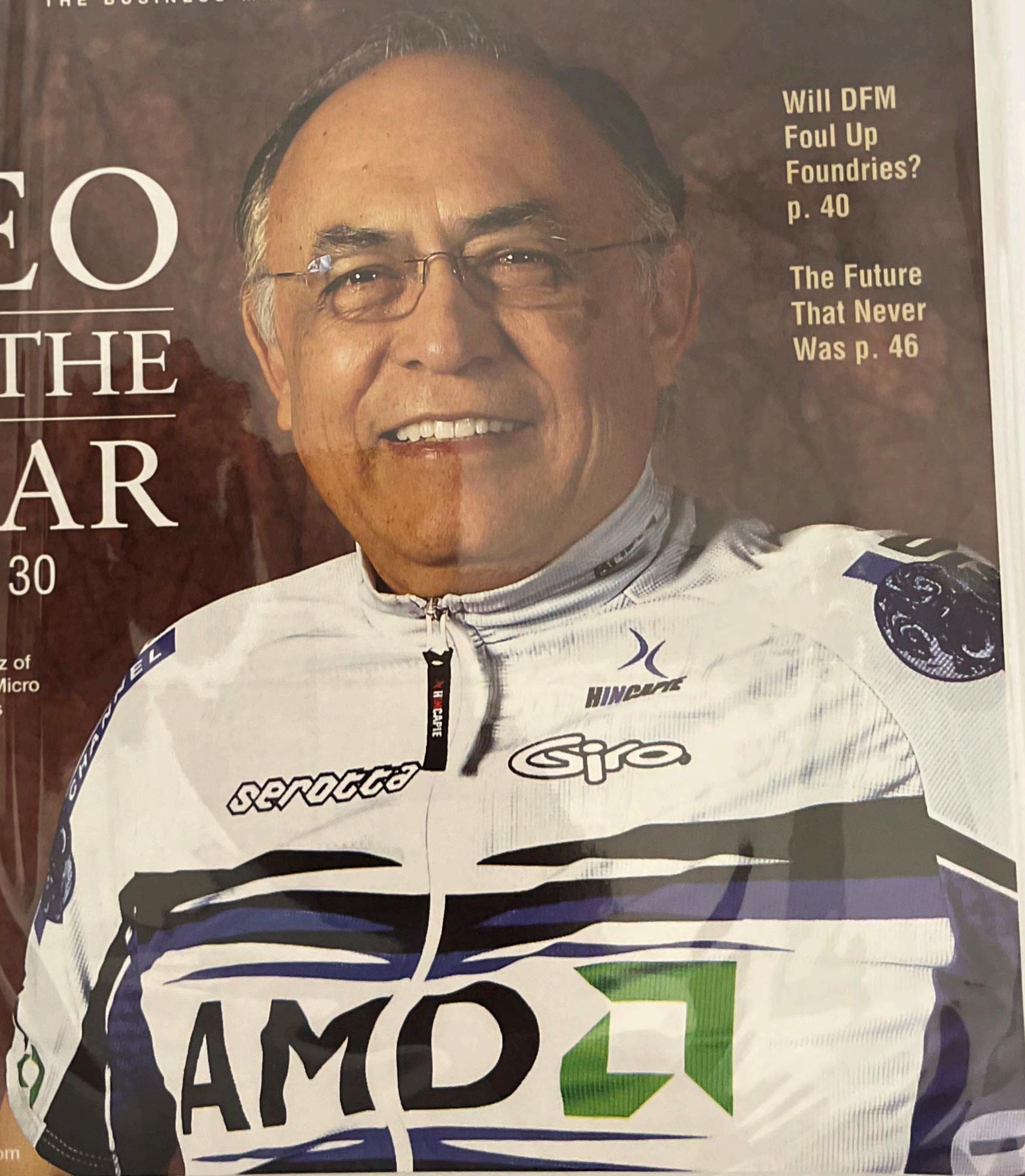
## CEO OF THE YEAR

p. 30

Hector Ruiz of  
Advanced Micro  
Devices

Will DFM  
Foul Up  
Foundries?  
p. 40

The Future  
That Never  
Was p. 46



# AMD woos Dell into server marriage

## Taking action

Dell plans to raise market share by cutting prices, boosting service, **D1**.

**On statesman.com:** For more coverage of Dell Inc., go to [statesman.com/dell](http://statesman.com/dell).

## Years of serenading end in agreement to use Opteron chips in computer maker's servers

By Kirk Ladendorf and Dan Zehr

AMERICAN-STATESMAN STAFF

Dell Inc. finally said yes to Advanced Micro Devices Inc., ending one of the longest

courtships in high technology.

The world's No. 1 PC seller and the underdog chip maker have flirted for several years. Even as AMD won over the rest of the industry, company by

company, Dell resisted.

But with its Opteron server chip, which has turned heads and rung up steady sales since it was launched three years ago, AMD landed Dell on Thursday.

Dell said it will sell servers with AMD's efficient and versatile Opteron chips by the end of the year. It's the first time in

more than a decade that Dell has used chips from anyone except Intel Inc.

The unexpected announcement is a huge win for AMD, as much in perception and prestige as profit. With Dell on board, all the major computer vendors

See **DEAL**, A12

## DEAL: Analysts had pushed Dell to use AMD chips

Continued from A1

offer servers with AMD chips. Dell's decision further legitimizes AMD chips to corporate buyers that are the heart of Dell's customer base.

Dell CEO Kevin Rollins said of the decision, "Customers said they wanted that technology."

It's also a big deal in Austin, where Dell makes servers and where AMD employs more than 2,000 people, many of whom are

involved in engineering, support and marketing for Opteron.

The decision came in a one-line announcement, buried far down in Dell's quarterly earnings statement that was released after the stock market closed.

But it sent AMD's stock soaring as much as 15 percent in after-hours trading to \$35.90.

Dell shares rose 4 percent to \$24.99 in after-hours trading. Intel's stock dropped 5 percent to \$17.72.

Wall Street analysts had criticized Dell in recent months for not adopting AMD's server chips, which have won wide praise for their efficiency and low power consumption. Analysts and technology buyers said AMD's chips were better in some applications, particularly higher-end servers with multiple processors often used in corporate data centers.

The announcement is the latest plot twist in one of the

computer industry's longest-running soap operas.

From time to time, analysts have speculated that a Dell-AMD announcement was forthcoming. Dell executives sometimes have fed the rumor mill with cryptic comments but other times remained silent.

Dell last used an AMD chip in its PCs in the early 1990s.

Two years ago, when the Austin American-Statesman asked founder Michael Dell whether that was "the first and last" AMD processor for Dell, he said: "It was the first. It may not be the last."

The game has been likened by some to the "Peanuts" cartoon in which Lucy would pull away the football every time Charlie Brown stepped up to kick it.

"Charles Schulz must be smiling somewhere now, because Charlie Brown finally got to kick the football," said Nathan Brookwood, a chip-industry analyst with Insight64 in Saratoga, Calif.

AMD's courtship of Dell dates back several years.

"We have been dancing for some time," said Marty Seyer, an AMD senior vice president. "It's a quarterly dance. They have been evaluating the technology, and they have said the technology is very strong. They were waiting for the customer voice to be loud enough. The signals were getting stronger, and they absolutely were not

Intel chose a different strategy with its 64-bit-only Itanium chip, which has been very slow to gain acceptance. Intel later added 64-bit capability to its 32-bit server chips named Xeon.

"Dell is a sufficiently large customer for Intel that Intel needs Dell at least as much as Dell needs Intel," Brookwood said. "Michael (Dell) can look (Intel chief executive) Paul Otellini in the eye and say, 'Look, Paul, when you can give us a four-way system that can match AMD in performance and

# AMD may want to buy graphics chip maker ATI

Analyst says move would be consistent with AMD's strategy to boost production

ASSOCIATED PRESS

SAN FRANCISCO — Shares of ATI Technologies Inc. jumped 9 percent Wednesday after a Wall Street analyst said the graphics chip maker might be acquired by Advanced Micro Devices Inc., the PC microprocessor maker that has been taking market share from Intel Corp.

RBC Capital Markets analyst Apjit Walia said "recent checks in the PC food chain suggest" the pairing "may be likely." It would be consistent with recent announcements from AMD about plans to boost its ability to produce significantly more chips over the next few years, he wrote in a research report.

ATI shares gained \$1.36 to close at \$16.51 on the Nasdaq. AMD's stock was up 41 cents to \$30.89 on the New York Stock Exchange.

Spokesmen for the companies declined to comment.

On Monday, AMD said it planned to invest \$2.5 billion over the next several years to refurbish old plants and build new factory space at its site in

Dresden, Germany.

Walia said there has been speculation for years that AMD or Intel would buy ATI or other graphics chip companies. He said he thought the move would be a mistake for Intel, which besides being the world's biggest chip maker is also the world's biggest supplier of graphics chips.

Graphics chips allow PCs and other devices to process complex graphics such as those found in video games.

"This tie-up might make sense for AMD at this juncture, but we don't think Intel should pursue tying up with graphics companies and should instead look at the communications space," Walia wrote. "We believe Intel is still not 'reading the writing on the wall' and continues to over-focus on PCs."

ATI is based in Markham, Ontario, which near Toronto.

Separately, Walia said Intel's revenue in the current quarter is on pace to fall almost 10 percent from the same period last year, which would translate to about \$8.3 billion, the midpoint of Intel's forecast of \$8 billion to \$8.6 billion.

Intel is making "drastic" price cuts on chips including its Celeron, Pentium 4 and Pentium D products, he said, which may give way to an "ugly" price war with AMD.

## At A.M.D., A Quiet Doer Gets His Due

"DON'T know if they told you this or not," Hector de J. Ruiz said half-apologetically, as he sat down to lunch the other day, "but I don't really like to talk about myself."

I can't say I was surprised. Mr. Ruiz, 60, is the chief executive of Advanced Micro Devices, a semiconductor company that would seem to have the most thankless task in business: competing head to head with mighty Intel.

Founded and long ruled by W. J. Sanders III, a man who loves both the good life and the limelight, A.M.D. had a history over the last decade or so of devising first-rate microprocessors. More often than not, though, it managed to snatch defeat from the jaws of victory, through a manufacturing problem or some other painful foul-up.

But in 2000, as he approached the age of 65, Mr. Sanders, who goes by Jerry, had the good sense to recruit Mr. Ruiz and install him as his potential successor. And since Mr. Ruiz took over as chief executive in 2002,



Hector de J. Ruiz

the company has had a remarkable run.

Its Opteron chip, introduced in early 2003, was, until recently, better than Intel's competing products. Under Mr. Ruiz, the manufacturing execution has been flawless, and as

a result, the company has made serious inroads with I.B.M. and Hewlett-Packard — companies that had long been wedded to Intel microprocessors. For instance, A.M.D. used to have zero presence in the high-end, high-profit server market; today, it has more than 25 percent of that market.

A few months ago, even Dell, an Intel stalwart if ever there was one, agreed to start using A.M.D. microprocessors. And earlier this week, I.B.M. announced that it was expanding its use of Advanced Micro's chips. A.M.D. remains a far smaller company than Intel, at one-tenth Intel's size in market capitalization. But it is no longer just an annoyance; it has become a competitive threat.

And these good things have happened under a leader who could not be more different from A.M.D.'s patriarch. As I discovered this week, when you get Mr. Sanders on the phone, you pretty much can't get him off. Mr. Ruiz, by contrast, is quiet — a good listener. He's patient. Unlike Mr. Sanders, he doesn't need to be the sun around which everyone else revolves. He doesn't make instant decisions, as Mr. Sanders often did, but once he makes up his mind, he stays the course.

"Jerry's leadership team was trained to check in with him before doing anything," said Thomas M. McCoy, the company's chief administrative officer. "Hector's approach is that if you know what needs to be done, just go do it."

And, as the man says, he doesn't like to talk about himself. Which isn't to say he doesn't have quite a story. As Adam S. Parker, the semiconductor analyst at Sanford C. Bernstein put it, when you discover where he came from, and how he got where he is, it becomes "hard not to root for him."

**L**ECTOR RUIZ came, in fact, from Mexico. He grew up

JOE NOCERA

## At A.M.D., Quiet Doer Gets His Due

Continued From First Business Page

solid-state lasers from Rice University. He then talked his way into a job at Texas Instruments before being recruited to Motorola.

Motorola, where Mr. Ruiz spent more than two decades, is where he learned to be a manager. His first job was to oversee the building of a plant in Scotland; his last was as the head of the company's semiconductor unit, which was in dire straits. "Within the first 90 days" of taking over the division, Mr. Ruiz said, "it was clear to me that we had way too many factories. I had to go to the board and say, 'We have a problem and there is only one way to deal with it. We have to size the company down.'"

This he did, closing seven of 21 factories, laying off a staggering 20,000 people, and returning the division to profitability. Although he felt he had no choice, it was not a happy experience. "The role of the C.E.O. is to create opportunities for people," he told me. "I believe that with a passion. When you don't do that, it really is a terrible failure." The huge layoffs earned him the moniker "Hector the Dissector."

Here's the funny thing, though. For a guy who laid off a lot of people, Mr. Ruiz certainly gained plenty of fans among those he worked with. His quiet, thoughtful manner inspired confidence, and his willingness to let people make some decisions without having to first consult him was empowering. That became clear after Mr. Sanders lured Mr. Ruiz to Advanced Micro Devices, where he began as the No. 2. "When he walked in the door," Mr. McCoy said, "this flood of talent in the industry started banging on the windows. 'Where is Hector? I want to come work for him.'"

His move coincided with one of the worst downturns in the history of the semiconductor industry. In 2000, at the height of the dot-com bubble, Advanced Micro was rolling in profits. Two years later, when he became chief executive, it lost \$1.3 billion. The stock dropped to around \$3.

"In times like that," Mr. McCoy said, "people are looking for lighthouses in the storm. What we had with Jerry and Hector were two very poised and experienced leaders, who persuaded employees if they could keep their eyes straight ahead, we were going to be O.K." (Mr. Sanders remained chairman of the board until 2005.)

Once again, Mr. Ruiz had to lay people off, though far fewer this time. He could see that the Opteron — which was code-named Hammer — was closer to becoming a reality, and that the chip would give the company a big advantage over Intel, which, because of its own strategic mistakes, didn't have anything to compete with it. So he didn't stint on research and development.

And he made a radical, bet-the-company decision. A.M.D. had always made its microprocessors for desktops, the least profitable part of the market. Mr. Ruiz decided that the Opteron had to be initially aimed at the server market, where the big profits were. "Going from desktop to server was not simple," he said. "The two markets are so different. We needed to start thinking in completely different ways about what we did."

Mr. Ruiz, meanwhile, went around to the PC makers, explained the company's plan, and solicited their input. His quiet confidence convinced some of them as well. When the Opteron was unveiled in April 2003, representatives from I.B.M. stood on

TimesSelect: Meet Joe Nocera at nytimes.com/nocera.

the stage with him and announced that they would use the chip. In time, both I.B.M. and Hewlett-Packard became big users.

To be sure, Intel has fought back fiercely. Its new chip, the Core2Duo, is aimed directly at the Opteron, and by all accounts, it's the superior product. "Intel is doing to A.M.D. what A.M.D. did to Intel three years ago," said Richard Whittington, a semiconductor analyst with Caris & Company. "Intel is in the driver's seat." Which of course now means that Mr. Ruiz and his team need to come to market soon with a next-generation microprocessor — and execute flawlessly. Somehow, this seems a lot more likely than it used to.

Surprisingly, when I called Mr. Sanders — who, incidentally, grew up dirt poor himself, in Chicago — he was grudging in his praise for Mr. Ruiz. Like many founders, he seemed to be having trouble letting go. Although he told me that Mr. Ruiz "has done an excellent job," he was quick to point out that the Opteron was hatched well before Mr. Ruiz arrived on the scene. "I don't think Hector is the risk-taker I was," he said. When I mentioned Mr. Ruiz's decision to attack the server market, Mr. Sanders claimed that that had actually been his idea. ("I have the documentation to prove it.")

He told me that he thought his own accomplishments were being undersold and Mr. Ruiz's were being oversold. "This is awkward for me," he sighed. Then he said: "The king is dead. Long live

### A charmed run, sure, but a tech company's chief executive has earned his success, too.

the king." It seemed not to occur to him that picking exactly the right person as his successor — and then having the grace to step aside — was one of his finest accomplishments.

As my lunch with Mr. Ruiz wound down, and he began to relax, he decided that he did have something he wanted to say about himself. "All my life," he said, "people have said I was lucky. When I went to Eagle Pass to go to high school, the calculus teacher ended up really liking me. The chemistry teacher really liked me. So I developed relationships with people who helped me."

"Then I went to the University of Texas and the same thing happened. I was given all sorts of opportunities. And again, people said, 'Boy, you're really lucky.' When I got to A.M.D., it already had a great manufacturing organization. And it had a great product in the works. Finally, I said, I can't deny it. It has been a very fortunate life."

The point he was trying to make was that what people missed were all the disappointments and difficulties along the way, such as struggling with his studies because he didn't speak English, or laying off valued employees. But I had a different thought as I listened to him. Some people know how to make their own luck. Hector Ruiz is one of them.

# Shovels break ground in Malta

\$4.2 billion construction project to take two years, employ 4,500

By ANDREW J. BERNSTEIN  
*The Saratogian*

MALTA — GlobalFoundries might be breaking new ground with its 1.3-million-square-foot microchip foundry in the Luther Forest Technology Campus, but “chips” are anything but a new concept in Saratoga County.

“For 150 years Saratoga has been known for chips,” Sen. Charles Schumer said at Friday’s groundbreaking ceremony at the site of the \$4.2 billion project.

To the applause of hundreds of assembled politicians and community leaders, Schumer held aloft a bag of Stewart’s potato chips, noting that the salty snack was invented in Saratoga Springs.

Then Schumer reached into the podium and pulled out a glittering, circular microchip produced by the Nanotech Institute at the University of Albany.

“This project may be the first microchip foundry in the Capital Region, but it will not be the last,” he said.

Friday’s formal groundbreaking kicked off what is expected to be a two-year construction process for GlobalFoundries’ first facility in the United States.

Schumer, Gov. David Paterson, U.S. Rep. Scott Murphy (D-Glens Falls), GlobalFoundries Chairman Hector Ruiz, former Gov. George Pataki, GlobalFoundries CEO Doug Grose and a host of other local politicians and business leaders from the semiconductor industry were on hand to put the literal shovel in the ground Friday.

The 223-acre site has been cleared of the dense woods that once stood there, leaving a barren landscape of dirt mounds and retention basins. In the coming months and years, architect M + W Zander will construct the massive facility, along with several constituent out-buildings at the site, with the



**LEFT:** Sen. Charles Schumer, D-N.Y., compares potato chips made in Saratoga County to the computer chips to be made at GlobalFoundries’ \$4.2 billion facility in Malta at groundbreaking ceremonies for the facility Friday.

**BELOW:** GlobalFoundries Chairman Hector Ruiz pats Gov. David Paterson on the arm at groundbreaking ceremonies for the Malta chip plant Friday.

TOM KILLIPS photos  
For The Saratogian

plant expected to come on line and reach full capacity in 2012.

At Friday’s groundbreaking, many speakers pointed out the plant’s arrival was the result of a nearly unprecedented private-public partnership.

“Targeted investments in strategic industries, when they are well-thought out, really are the future of New York,” said Paterson, who also admitted to being an early skeptic of the project while serving in the New York State Legislature.

“When Gov. Pataki talked to me about it, I thought it was a

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*‘We considered many locations, but the wonderful people of New York reached out to us.’*

**Hector Ruiz**  
GlobalFoundries chairman

