Inside Intel
Paul Otellini's plan will send the chipmaker into uncharted territory. And founder Andy Grove applauds the shift

Even the gentle clinking of silverware stopped dead. Andrew S. Grove, the revered former Intel Corp. (INTC) chief executive and now a senior adviser, had stepped up to the microphone in a hotel ballroom down the street from Intel's Santa Clara (Calif.) headquarters, preparing to respond to a startling presentation by new Chief Marketing Officer Eric B. Kim. All too familiar with Grove's legendary wrath, many of the 300 top managers at the Oct. 20 gathering tensed in their seats as they waited for a tongue-lashing of epic proportions. "No one knew what to think," recalls one attendee.

The reason? Kim's plan, cooked up with new CEO Paul S. Otellini, was a sharp departure from the company Grove had built. Essentially, they were proposing to blow up Intel's brand, the fifth-best-known in the world. As Otellini looked on from a front table, Kim declared that Intel must "clear out the cobwebs" and kill off many Grove-era creations. Intel Inside? Dump it, he said. The Pentium brand? Stale. The widely recognized dropped "e" in Intel's corporate logo? A relic.

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As executives rose to greet him with relieved applause, the moment signaled an historic shift for one of the world's most powerful technology companies. The iconic Intel would leave the Grove era behind and head into uncharted territory. Otellini will unveil the new strategy and new products on Jan. 5, at the Consumer Electronics Show in Las Vegas. Central to the effort will be the first new corporate logo in more than three decades and a $2.5 billion advertising and marketing blitz. BusinessWeek has learned.

The changes go far deeper than the company's brand. Under Grove and successor Craig R. Barrett, Intel thrived by concentrating on the microprocessors that power personal computers. By narrowing the company's focus, the duo buried the competition. They invested billions in hyperproductive plants that could crank out more processors in a day than some rivals did in a year. Meanwhile, they helped give life to the Information Age, with ever-faster, more powerful chips.

Otellini is tossing out the old model. Instead of remaining focused on PCs, he's pushing Intel to play a key technological role in a half-dozen fields, including consumer electronics, wireless communications, and health care. And rather than just microprocessors, he wants Intel to create all kinds of chips, as well as software, and then meld them together into what he calls "platforms." The idea is to power innovation from the living room to the emergency room. "This is the right thing for our company, and to some extent the industry," he says. "All of us want [technology] to be more powerful and to be simpler, to do stuff for us without us having to think about it."

Why the shift? Stark necessity. PC growth is slowing, even as cell phones and handheld devices compete for the numero uno spot in people's lives. Otellini must reinvent Intel -- or face a future of creaky maturity. Revenue growth has averaged 13% for the past three years, but analysts figure Intel will see only 7% growth in 2006, to $42.2 billion. Meantime, profits, which have surged an average 40% annually over the past three years, are expected to rise a measly 5%, to $9.5 billion. "It's a race for Intel and other companies to figure out how fast is revenue going to come from emerging areas before PC margins begin to come down sharply," says Ragu Gurumurthy, head of technology practice for Boston tech consultancy Adventis Corp.

**20,000 New Faces**

Intel has tried entering new markets in the past, particularly under Barrett. Yet it always treated them as tangential and never let them detract from the core processor effort. Not anymore. Otellini, who took over as CEO in May, has reorganized the company top to bottom, putting most of its 98,000 employees into new jobs. He created business units for each product area, including mobility and digital health, and scattered the processor experts among them. He has also added 20,000 people in the past year. The result? Intel is poised to launch more new products in 2006 than at any time in its history.

Intel's culture is changing, too. Under the charismatic Grove, who was CEO from 1987 to 1998 and then chairman until 2005, the company was a rough-and-tumble place. Grove's motto was "Only the paranoid survive," and managers frequently engaged in "constructive confrontation," which any outsider would call shouting. Engineers ruled the roost. Grove and Barrett also instituted the practice of doing out cash to PC makers for joint advertising, which Intel rivals have alleged blocks them from some markets.

Otellini is more diplomatic, partly by nature, partly by necessity. The intensely private 55-year-old rarely reveals irritation -- and then, with a slight frown. His management mantra: "Praise in public, criticize in private."

He's also is the first non-engineer to run the company. Otellini studied economics in college at the University of San Francisco and then joined Intel in 1974, straight out of B-school at the University of California at Berkeley. Many of the new employees he's bringing on aren't typical Intel hires either. They include software developers, sociologists, ethnographers, even doctors to help develop products. He lays particular emphasis on marketing expertise because he thinks the only way Intel can succeed in new markets is by communicating more clearly what the technology can do for customers. "To sell technology now, you have to do it in a way where it's much more simple," says Otellini. "You can't talk about the bits and the bytes."

The changes have created some angst among employees. In particular, many high-level engineers working on PC products feel they've been stripped of their star status. "The desktop guys used to rule the company, and we liked it that way," says one former chip designer, adding that some engineers now feel "directionless." Other employees are simply uncomfortable with the new emphasis on marketing. "There definitely are people who are highly skeptical, who think this is all fluff, all just gloss -- that if you make good technology, you don't need the glitz," says Genevieve Bell, an in-house ethnographer whoresearches how people in emerging markets like China and India use technology.

Yet Intel and Otellini aren't shying away from glitz these days. For its bash at the Consumer Electronics Show, the company has booked the hip-hop band Black Eyed...
Peas, with its hit *Let's Get It Started*. Beforehand, Otellini will unveil the new Intel during his keynote speech. It starts with a whole new look for the 37-year-old company. The Intel Inside logo will disappear, replaced by an updated Intel logo with a swirl around it to signify movement. For the first time since the early 1990s, the company will add a tagline: "Leap ahead."

Meantime, the famous Pentium brand will be slowly phased out. In its place: a troika of brands, two of them freshly minted. Viiv (rhymes with "alive") is the name of a new chip for home PCS, designed to replace your TiVo (**TIVO**), stereo, and, potentially, cable or satellite set-top box. It will be able to download first-run movies, music, and games, and shift them around the home. Intel also will launch a set of notebook PC chips under the three-year-old Centrino brand, as well as so-called dual-core chips, which will put two processor cores on one sliver of silicon. The new brand "Core" will be put on products that don't meet the specifications of the Viiv or Centrino platforms. The effort is winning high-profile support. On Jan. 10, Apple Computer Inc. (**AAPL**), which has never used Intel's chips before, is expected to be one of the first companies to offer products with the dual-core chips.

One of Otellini's key steps in all this was hiring Kim away from Samsung Group a year ago. Kim had led Samsung's marketing since 1999 and helped build the Korean maker of consumer electronics, cell phones, and computer chips into a hot global brand. But Otellini didn't just swipe a major talent away from the company that's increasingly seen as Intel's prime competitor. By hiring an outsider who reports directly to the CEO for the first time in Intel's history, Otellini also got someone who could play bad cop and push through unpopular changes when necessary. Rank-and-file employees do grumble about Kim and what they consider his autocratic style, but he makes no apologies. "I tell people they're not just about making silicon. They're helping people's lives improve, and we need to let the world know that," says Kim.

Yet it's a daunting task, especially for a company that has never had much success outside the computer industry. Companies that have been good at transforming themselves, from Nissan (**NSANY**) and Apple to Texas Instruments (**TXN**), typically need a crisis to precipitate change, says management expert Jay R. Galbraith of Galbraith Associates. And although Intel is facing a possible slowdown, it's still pulling in nearly $1 billion a month in profits. "Change is really hard when you're solidly on top," says Galbraith. "He'll have to bring in new people who have new skill sets."

**A Mean Pack**

Competitors keep nipping at Intel's flanks. Longtime rival Advanced Micro Devices Inc. (**AMD**) in 2003 launched its Opteron and Athlon 64 chips, outgunning Intel in both raw power and lower power consumption. AMD's market share rose to 17.8% last quarter, up from 16.6% in early 2003, and some analysts predict it will gain more until Intel fields competitive chips in late 2007. AMD CEO Hector J. de Ruiz equates Intel's position with that of American auto makers, scrambling to find innovation even as consumers flock to Japanese rivals. "People are smart enough to pick quality when given a choice, and calling something a platform doesn't guarantee quality," Ruiz says.

In the cell phone market, Texas Instruments and Qualcomm Inc. (**QCOM**) have held fast against Intel's incursions. Intel Executive Vice-President Sean M. Maloney once wore snowshoes to a company sales conference to illustrate the deep slog. In 2006, AMD and TI plan to field their own chip platforms aimed at capturing some real estate in the digital home.

So Otellini is shaking things up throughout the company. In addition to the reorg, he's making big changes in the way products are developed. While in the past engineers worked on ever-faster chips and then let marketers try to sell them, there are now teams of people with a cross-section of skills. Chip engineers, software developers, marketers, and market specialists all work together to come up with compelling products.

One example of the new approach is Bern Shen. A doctor who practiced internal medicine for 15 years, he joined Intel three months ago to help develop technologies for digital health. He works with Intel's ethnographers to figure out which technologies might help in monitoring the vital signs of the elderly or tracking the diet of people with Alzheimer's. "The fact that they hired me is an indication of the new Intel," he says.

Otellini is convinced such collaboration will lead to breakthrough innovations. He imagines a day when people will use Centrino laptops to watch live TV on the subway or when kids will be able to download *Spider-Man 3* to their home theater on the same day it's released worldwide. Shen's work could lead to Intel technology that allows the elderly to keep living at home, even as data on their vital signs are zapped to doctors several times a day. "This is the right model," Otellini says. "Now it's just a matter of playing it out."

If the world buys Otellini's ideas, industries from Hollywood to health care could be turned upside down. Media and entertainment may be forced to rethink their business models.
The health industry could be transformed, as doctors diagnose or even treat patients remotely. "The most important thing about Intel is that they've got the vision," says Russ Bodoff, executive director of the Center for Aging Services Technologies (CAST), a coalition of 400 companies, universities, and hospitals. "They are pushing some very innovative approaches, in areas that relate to dementia, Alzheimer's care, and Parkinson's disease."

The ultimate goal: to provide the manufacturers of everything from laptops and entertainment PCs to cell phones and hospital gear with complete packages of chips and software. The template is Centrino. When Otellini was leading product planning in the core PC business from 1998 to 2002, he decided that rather than roll out just another fast processor, he would bundle it with a relatively new wireless Internet technology called Wi-Fi. The combo made it a breeze for people to connect to the Net from airport lounges and coffee shops. Backed with an initial $300 million marketing campaign, Centrino notebooks became an instant hit, revitalizing the PC market and persuading consumers to snap up the higher-margin products.

**Now, a Giant Step**

Still, Intel's first big success in diversification was only a half-step away from the core PC market. Will it be able to do as well in other areas? Consider Viiv. In the consumer electronics market where Viiv devices will be positioned as an all-in-one DVD player, game console, TiVo, and music jukebox, it faces plenty of big-name competitors. Meanwhile, brand-new challengers are appearing on the horizon. Sony Corp. (SNE), with its PlayStation 3 due out in just a few months, aims to offer games, movies, and music on the device, which uses chips from IBM (IBM). Cable and satellite providers such as Comcast Corp. (CMCSA) and DirecTV Group Inc. (DTV) are adding more features and services to their set-top boxes, such as on-demand television shows and XM satellite radio.

Cutting through the clutter of competitive activity is why Otellini and Kim have lifted branding to new heights at Intel. But for a huge company like Intel, it will be especially tough. "In many ways, it's like trying to change the engines on an airplane when you're flying it," says Russ Meyer, chief strategy officer for branding consultancy Landor Associates. Companies must try not only to differentiate themselves from competitors but also to align internally to make sure the same message is clear to employees. For an "ingredient" brand like Intel with no products that a consumer actually can pick up from the local Best Buy (BBY) or Wal-Mart, (WMT) the trick also is to convince new customers of the value of using its products.

With that in mind, Otellini's Digital Home team has struck some of the biggest content deals to date with major Hollywood players and music services to entice both customers and consumers to the Viiv platform. The hundreds of millions it will dole out for marketing Viiv has partners like Sony and Philips Electronics (PHG) salivating. They also seem to be genuinely impressed with the new attitude at Otellini's Intel. "I have seen more flexibility, more of an open mindset than in years past," says Sony Vice-President Mike Abary, who heads the company's Vaio PC business. "They realize that times have changed, that they don't have all the answers. So it has been much more collaborative working with them."

Otellini also has gone to great lengths to win over marketing maestro Steve Jobs. It's quite a reversal. For years, Grove and Barrett pooh-poohed Apple as a niche company whose products had sleek form, but nowhere near the function of computers with Intel's chips. Yet Otellini set about wooing Jobs almost from the start. In June, a month after Otellini took over, the two companies announced Apple would begin shipping Macs and other products with Intel chips in 2006. Otellini aims to use the Apple relationship to force PC makers to step up their innovation. "They've always been a front-runner in design," he says. "As they start taking advantage of some of our lower-power products, that form factor will improve significantly. I think it will help drive a trend toward smaller, cheaper, cooler."

Jobs's influence extends beyond design. At Otellini's urging, Apple's "Think Different" vernacular is beginning to take root inside Intel. The two chief executives also appear to be developing a real friendship. Intel insiders say they talk regularly. And when Prince Charles and his wife, Camilla, visited Silicon Valley in late November, Jobs and Otellini were side by side, hobnobbing with the royalties.

The Apple relationship could create some strain with Intel's two old compadres in the PC business, Dell (DELL) and Microsoft. (MSFT) Dell has been one of Intel's most loyal customers: It's the only major U.S. maker of PCs that hasn't come out with boxes powered by AMD chips. So if Intel provides strong support for Apple in the PC business, it could prompt Dell to do business with AMD's Ruiz. Dell is going after more consumer business, Apple's primary turf. In late 2005, Dell introduced a higher-end XPS line and it plans to ship Viiv PCs.

Meantime, Intel execs seem open to easing their once ironclad ties to Microsoft. At the
start, PC makers will have to use Microsoft's Windows Media Center Edition operating system to earn the Viiv brand -- and Intel's co-marketing dollars. But Intel says this may not continue, opening the door to Viiv machines with the Linux open-source operating system or even Apple's. Indeed, Kim says he expects some PC companies to ship Viiv boxes, without Windows.

Another budding relationship in Intel's march on new markets is with Google (GOOG). Otellini joined the search company's board in April, 2004, and has found a few areas of joint interest. For one, Otellini heard that Google's energy bill for its servers now exceeds the cost of the equipment. (With 100,000 servers, Google's electricity bill probably tops $50 million a year.) That prompted Otellini to explore the prospects for energy-efficient chips. In August, Intel announced it would dump its old architecture in favor of lower-power chips in 2006.

The two companies also have a shared interest in wireless broadband. Google is exploring whether to set up free Wi-Fi "hot spots" in San Francisco and other cities. Footing the bill for Net access may make sense for Google, since it allows the company to show digital ads to any Web surfers who use the service. Intel would benefit because free Wi-Fi could further sales of Centrino laptops. Google execs have also said they're interested in WiMax, another wireless technology Intel is backing. Intel plans to imbed WiMax, which is similar to Wi-Fi but works over greater distances, into PC chips late this year.

Outsiders Welcome
To bolster the push, Otellini is looking to recruit more execs from outside the company. In the past year, Maloney hired Nokia Corp. (NOK) veteran Steven Gray as a key member of the cellular team. And Maloney is turning more often to Intel Vice-President Sam Arditi, a cellular industry veteran with experience in radio chips and processors -- key ingredients in handsets.

The result: closer ties with Nokia and Samsung, which are both collaborating with Intel on WiMax. In September, Maloney also announced a deal with Research In Motion Ltd., (RIMM) making it the first major name to use its cellular platform of radio, processors, and memory. "The relationship is going to be very important to RIM," says co-CEO Jim Basillie.

For all that, Otellini's internal challenges may prove more daunting than the external ones. For one, PC chip development still casts a long shadow at the company. During Grove's and Barrett's tenures, anyone not producing for the core PC business was considered a second-class citizen. Barrett described the problem as akin to the creosote bush, a tall desert plant that drips poisonous oil, killing off all vegetation that tries to grow nearby. Microprocessors so dominated the company's strategy, he says, that other businesses could not sprout around it. That was one reason Otellini reorganized into product areas.

The shake-up hasn't helped company morale, though. Especially hard-hit were the engineering teams in California and Texas, which had been working on the Pentium 4 until Otellini canceled it. Some of the design specialists have quit for new jobs, often with AMD or TI. To smooth over the troubles, Otellini has toured the chipmaker's outposts, talking with engineers and others without their managers around. "A lot of what he heard was pent-up frustration, no doubt," says one engineer. "But you appreciate the fact that he's listening." Intel's attrition in 2005 was 4%, about average for the tech industry.

Sniping about the rise of marketers such as Kim continues. Says Schmuel "Mooly" Eden, an Israeli engineer who helped spearhead the Centrino launch and now heads marketing for the Mobility Group: "When I went back to Israel to talk to some of the engineers, they said: 'You're only one year in marketing, and already you're brain-damaged.'"

As Intel gears up for its big bang of product launches, there's no doubt the mantle of leadership has shifted. This year, Otellini, for the first time, will write a performance review for Grove. In his advisory role, Grove sits in on important meetings, particularly in digital health, and gives his thoughts. Asked about the prospects of critiquing the company legend, Otellini just laughs. Reviewing Grove will be a breeze next to the challenge of remaking the world's largest chipmaker.
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By Cliff Edwards

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