



## About Cabot Microelectronics

Cabot Microelectronics Corporation (NASDAQ: CCMP), headquartered in Aurora, Illinois, is the world's leading supplier of chemical mechanical planarization (CMP) slurries used in semiconductor and data storage manufacturing (see the last page of this report for a description of the CMP process). Since becoming an independent public company in 2000, we have grown to approximately 650 employees who work at research and development labs, sales and business offices, manufacturing facilities and customer service centers in China, France, Germany, Japan, Singapore, South Korea, Taiwan, the United Kingdom and the United States. As we continue investing in our core CMP business we are also looking beyond the semiconductor industry to pursue our vision to *be the world leader in shaping, enabling and enhancing the performance of surfaces*.

## Selected financial data

In millions, except per share amounts	Year ended September 30,		
	2005	2004	Change
Revenues	<b>\$270.5</b>	\$309.4	-12.6%
Operating income	<b>43.8</b>	69.7	-37.2
Net income	<b>32.5</b>	46.7	-30.5
Diluted earnings per share	<b>1.32</b>	1.88	-29.7
Total assets	<b>386.8</b>	363.3	6.5
Stockholders' equity	<b>339.1</b>	315.6	7.4
Cash and short-term investments	<b>171.1</b>	157.3	8.7
After tax return on invested capital	<b>17%</b>	27%	-37.0

## About the cover

PREDICTABILITY IN A COMPLEX WORLD. *Even though technology is becoming more complex, the semiconductor industry wants predictability from their suppliers. Because we can replicate our customers' process technologies in our state-of-the-art production-scale labs, we can identify and eliminate potential problems. We bring more predictability to a complex world.*

Fiscal 2005 was a challenging year for portions of the semiconductor industry. Demand in some areas slumped and many players in the industry felt it. Certainly, we did. We were disappointed with our financial results for fiscal 2005. However, we accept responsibility for our performance and are using our experience to build a stronger business for the future.

Traditionally, demand in the semiconductor industry is cyclical, so declines are usually followed by upswings. Therefore, even during this difficult year, we continued to invest in our business so we can meet our customers' future demands.

As everyone knows, a business cannot survive without customers. Winning them is tough and keeping them satisfied is tougher. And, if you don't give customers what they need, there will always be someone else who will try. Over the past two years, we've been working on three strategic initiatives: technology leadership, operations excellence, and getting closer to our customers. We believe our efforts in these three areas have improved our ability to give our customers just what they need.

Our customers are semiconductor manufacturers and they are motivated by two opposing forces. When designing a new product, they constantly push the envelope to make their integrated circuits faster, cheaper and more efficient. However, when manufacturing

that product, they become extremely cautious and value the "tried and true" above all else. The challenge for suppliers is to meet both of these opposing needs.

#### **The rules of the game**

In their drive to sustain Moore's Law, our customers have continually sought new and innovative materials and made technological breakthroughs to achieve truly amazing capabilities in integrated circuits. As they race toward smaller geometries and higher performance, manufacturers rapidly screen, evaluate and eliminate a wide range of new materials and integration schemes before finding exactly the right combination to use in the commercialization of a new integrated circuit device. The speed with which these

companies operate during the development cycle creates enormous pressure and risks for suppliers engaged in these next generation development efforts. Customers need and expect suppliers to bring highly innovative and creative technical solutions that are either tailor-made to very specific requirements or have the ability and flexibility to be quickly and elegantly tuned to fit their needs.

However, after moving a technology from development into high volume manufacturing, the customer's risk-taking mentality gives way to an obsession for consistency and predictability. This obsession springs from two needs: avoid costly production disruptions and, because the end user demands the same degree of reliability that our customers do, ensure the finished product operates as promised. The intensity of the focus on consistency and lack of variability is difficult to comprehend for those outside the semiconductor industry. Process solutions must perform exactly the same, batch after batch, over the lifecycle of the technology. Thus, suppliers need to provide highly innovative but very predictable solutions.

The relatively young chemical mechanical planarization (CMP) industry and our demonstrated success in it have attracted competition. Success goes to those who can manage these opposing mindsets of the customer for rapid new product innovation and predictable production. We believe continuing to successfully execute our three strategic initiatives uniquely positions our company to meet our customers' needs and enhance our relationships with them.

### **Technology leadership**

Few things change as rapidly as semiconductor technology at the leading edge. Our customers demand suppliers who can keep up with the breakneck speed of their technological advances. But we want to do more than just "keep up". We want to continue to deliver technology leadership. This requires the world's best scientists, engineers and technologists, and we believe no other company in our field can match the level of intellectual horsepower we bring to the research, development and commercialization processes.

Not long ago we structured our business to provide sharper focus on existing, evolving and future

CMP applications. We organized many of our commercial, technical, quality and manufacturing resources by application: copper, tungsten and dielectric slurries and polishing pads for the semiconductor industry, and slurries for data storage applications. Creating a single cross-functional team for each area has produced benefits for all of our businesses. We also organized a team that explores advanced technology to feed future product development.

A positive outcome of this restructuring is our revitalized new product pipeline. New products are the lifeblood of our business and I'm pleased to say our new product development continues to be robust. By implementing and institutionalizing principles of Six Sigma in the product development process, we are bringing real science and predictability to CMP, which many of our customers consider as much an art as a science.

We believe we are the technology leader in our industry and that our position has been strengthened by our ongoing initiatives. For example, we are now capable of delivering "tunable" product platforms, built around core abrasive particle and chemical systems. These tunable platforms enable our customers and our scientists to work together to very rapidly "dial in" the specific performance the customer wants. And these tunable solutions are robust enough to span the breadth of materials, films and integration schemes that our customers are incorporating in their designs.

Our application teams have their fingers on the pulse of our customers' technology road maps. Knowing what our customers need to achieve helps set the agenda of our research and development groups. We are now running in front of many applications and have technical tools "on the shelf" and ready to go when our customers require them.

We have introduced a number of products in support of our customers' 90 nanometer (nm) ramp



As the integrated circuitry is built up on a silicon wafer, our CMP technology maintains a near-perfect flat and smooth surface, layer by layer.



TECHNOLOGY LEADERSHIP

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**The tabletop polishing methods  
we developed allow us to rapidly  
screen CMP polishing processes  
outside of the cleanroom.**

**We learn more in less time.**

**Our productivity increases.**

**We're more responsive  
to the customer. We all win.**





OPERATIONS EXCELLENCE

Careful, consistent testing by our quality control lab has helped us successfully deliver tens of millions of gallons of slurry to our customers on time and within specifications.

and 65nm development as well as provided new CMP slurry technologies for a wide range of new materials. We are also designing leading edge products to support future customer development work at the 45nm through 22nm technology nodes, which are on track for production between 2008 and 2014.

### Operations excellence

All the technological innovation in the world doesn't mean much unless you can deliver these innovative products consistently and reliably at commercial scale and at a competitive cost of ownership for our customers.



We test a slurry sample from each batch to verify product integrity.

To meet this customer expectation, we focus on designing manufacturability, quality and consistency into our products from the very start.

Our products' performance relies on the performance of the raw materials we use. We require that our suppliers meet the same rigorous standards that our customers require of us. Through collaboration with our suppliers, we've achieved significant quality and productivity improvements,

as well as cost reductions. And we think there's plenty of opportunity to do more.

### Getting closer to our customers

We can't give our customers what they need if we don't clearly understand what that is. We've moved from our early days when we focused on producing what we excelled at to now developing and producing what our customers need. Our willingness to be open with our knowledge, listen to our customers, and act on their requests has renewed our credibility in their eyes. We saw evidence of that in 2005, when we won a number of supplier awards for service, quality and value.

Long-term customer supply arrangements are unusual in this industry but last year we signed four of them, spanning all major product lines and a variety of technology nodes. In addition to ongoing, day-to-day collaboration with customers, we are also

working with a number of customers on more formal joint development projects. We believe only our company has the scale, technical expertise and experience to accomplish the number and scope of these joint projects.

We're also getting closer to our customers literally. The Asia Pacific region is very important to the semiconductor industry and to us. So this past year, we took a number of steps to enhance our presence there. First, we built our Asia Pacific Technology Center, which includes a clean room and research and development facilities. Using these resources in a location and time zone that is more convenient to our customers in Asia, our scientists and technologists can be more responsive. Second, we moved our data storage slurry business to Singapore. Third, because some of our largest customers are in Taiwan, in August 2005 we announced plans to move from a third-party distributor to direct sales in that country, effective April 2006. We also are making progress on our plans to provide advanced CMP slurry formulation capability in Taiwan. Along the way we have been continuously adding more technical and commercial talent at our sites within the Asia Pacific region.

### The payoff from our strategic initiatives

When a customer calls us with a CMP problem or a challenge, we take ownership of it. We have restored our reputation for providing outstanding service by highly skilled technologists with a "can do" attitude. We are eager to help our customers through any CMP process challenge, whether related to our slurries, the polishing equipment used or the customer's process scheme. As a result, our customers are developing ever greater confidence in our company, our products and our ability to deliver.

### Moving beyond the core

We believe we are the technology leaders in the CMP slurry industry. But our vision to "be the world leader in shaping, enabling and enhancing the performance of surfaces" dictates a broader path for our company. We believe we possess a core capability and expertise in modifying surfaces at the atomic level. And we believe there are significant and exciting opportunities

to deliver revolutionary performance to customers outside of our core CMP business by leveraging our technology and intellectual infrastructure. This vision is taking us into new applications where we believe high performance can be enabled by our CMP technology. Precision optics, compound materials, displays and metal finishing are just some of the applications we are exploring.

We think this broader effort can enhance our growth potential and reduce our exposure to future semiconductor industry cycles. With the flexibility provided by a strong balance sheet and strong cash flow, we believe we can pursue strategic acquisition opportunities to gain market entry and application capabilities in these new areas.

#### **Success without compromise**

Succeeding in a complex industry that constantly pushes the envelope encourages speed, agility, and the desire and ability to take calculated risks. Contrary to some companies, we would not consider cutting quality, safety and ethical corners to get the job done. That's why one of our early steps was to articulate a set of values that describes how we do our work and what is expected of each of us as we perform our jobs. Through an articulated framework, our values describe how we relate to and behave with each other, our customers, our suppliers and our communities.

Our values—integrity, respect, courage, accountability and excellence—aren't unique or original. In fact, some would say that they have been overused in the business world to the point of triteness. But rather than being reduced to words on posters hung on conference room walls, we believe we're living these values and holding each other accountable to them. We're using these values to guide behavior, even when doing the right thing doesn't necessarily mean doing the easy thing.

#### **Governance with high standards**

We believe that strong corporate governance has been a hallmark of our company since its inception. The foundation of this is a strong "tone at the top" that emanates from our board of directors and senior management, and is populated throughout our business.

#### **Rigorous controls**

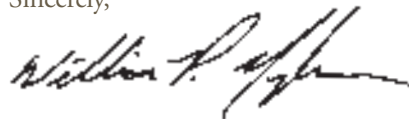
This attitude was shown in our efforts during the past year as we worked diligently to meet the requirements of Section 404 of the Sarbanes-Oxley Act. Doing so imposed significant financial and resource burdens for a company our size. However, we embraced the process and used it to learn and improve our overall business. As a result, we have a far better understanding of our day-to-day activities as well as a renewed confidence that our control processes are solid and well understood. We believe our work to comply with SOX 404 has added value and we are a better company for it.

#### **In conclusion**

I believe Cabot Microelectronics has re-aligned itself with the needs of the market and our customers. As a result, I believe a new and exciting chapter of growth and innovation awaits Cabot Microelectronics Corporation. Translating that potential into reality will require talent and hard work, and I believe we have the resources we need to make it happen.

I'm encouraged by the opportunities that exist to perfect the surfaces of tomorrow, and about the potential of those opportunities to reward our shareholders and employees and bring outstanding performance and value to our customers. I look forward to sharing our progress on this exciting journey with you and I thank you for your continued support.

Sincerely,



William P. Noglows  
*Chairman, President and Chief Executive Officer*



William P. Noglows (left), Chairman,  
President and CEO, and  
William S. Johnson, Vice President and CFO





GETTING CLOSER TO OUR CUSTOMERS

**Establishing close relationships with our customers helps us understand their business, meet their needs and work collaboratively to optimize results. Our customers know we are there for them.**



CREATING NEW OPPORTUNITIES

**We are exploring new applications  
for our CMP technology,  
such as precision optics,  
compound materials, displays  
and metal finishing.**

## The CMP Process

### What CMP is

CMP is a process that polishes materials used in the production of high-performance integrated circuit devices for advanced memory and logic applications. Modern circuit design incorporates conductive materials, including aluminum, tungsten, titanium, copper, polycrystalline silicon, and tantalum, and insulating materials such as silicon oxides, nitrides, and carbides.

From the beginning, end users have demanded that electronic devices be smaller, run faster and cost less. Putting more circuitry closer together means the chips can operate more quickly and store more information. But it also increases the risk of short circuits or open circuits. A single scratch or flaw in the complex network of wiring can ruin the entire chip. CMP is presently the only viable process to achieve the near-perfect flat and smooth surfaces necessary to meet the design and performance needs of the chip maker.

### How CMP works

In essence, CMP polishes material on the surface of a chip to create the desired flatness or planarity. To understand the process, consider that a chip is a small rectangle of silicon that can be covered with hundreds of millions of microscopic transistors. The transistors are connected by layers of microscopic aluminum or copper wiring, each wire as narrow as a thousandth of a human hair. Such tiny wiring is created by lithographically imaging the pattern of an integrated circuit on a wafer surface. The pattern is etched into the wafer surface, creating channels. The surface is then coated with metal, which is either polished or etched until only the metal in the channels remains, creating the wiring. The wiring is later coated with a film of insulating dielectric material to create a near-perfect flat surface on which to focus the next lithographic image. The depositing insulators, patterning, etching, depositing metals and polishing steps are repeated again and again. As many as 500 steps are required to make the most sophisticated chips, and this can include up to 25 CMP polishing steps.

### What CMP slurry is

CMP slurries are blends of ultra pure water, specialty chemicals and abrasive nanoparticles used in the CMP polishing process. The chemicals interact at the atomic level with the metals and insulators on the chip surface, and the nanoparticles abrade the altered surface with the help of a urethane polishing pad. The chemicals and abrasives used in a given slurry are chosen for their particular ability to adsorb, soften, etch away or protect surfaces as dictated by the application. A chip maker may require one CMP slurry to polish multiple hard films at a very high rate while leaving an adjacent soft film intact.

### How small integrated circuits, transistors and wiring can get

While once made of relatively gigantic micron-sized wires (a micron is one millionth of a meter), today's leading edge circuits use wiring as small as 65 nanometers (nm) wide, which is 65 billionths of a meter! In 1965, Gordon Moore, co-founder of Intel, observed that the number of transistors per unit area on integrated circuits had doubled every one and a half to two years since the integrated circuit was invented. Moore's prediction that this trend would continue for the foreseeable future has been dubbed "Moore's Law". Some people believe it will continue at least another two decades. While nobody knows for certain what the future will bring, Cabot Microelectronics researchers are working closely with our customers to develop new CMP processes at the 45, 33 and even 22nm technology nodes.

**LEADERSHIP TEAM AND OFFICERS**

William P. Noglows  
Chairman, President and  
Chief Executive Officer

H. Carol Bernstein  
Vice President, Secretary and  
General Counsel

Victoria J. Brush  
Vice President, Human Resources

Yumiko Damashek  
Managing Director, Japan

James DeHoniesto  
Chief Information Officer

Jean Pol Delrue  
Vice President, Global Sales

Julie A. Hensel  
Vice President, Global Quality

William S. Johnson  
Vice President and Chief Financial Officer

Daniel J. Pike  
Vice President, Corporate Development

Thomas S. Roman  
Corporate Controller

Stephen R. Smith  
Vice President, Marketing and  
Business Management

Clifford L. Spiro  
Vice President, Research and  
Development

Adam F. Weisman  
Vice President, Operations

Daniel S. Wobby  
Vice President, Asia Pacific Region

**BOARD OF DIRECTORS**

William P. Noglows  
*Chairman*  
President and Chief Executive Officer,  
Cabot Microelectronics Corporation

Robert J. Birgeneau  
Chancellor, University of California, Berkeley

John P. Frazee, Jr.  
Former Chairman and Chief Executive  
Officer, Centel Corporation

H. Laurance Fuller  
Former Co-Chairman, BP Amoco PLC

Edward J. Mooney  
Former Chairman and Chief Executive  
Officer, Nalco Chemical Company

Albert Y.C. Yu  
Chairman, OneAngstrom LLC;  
Former Senior Vice President,  
Intel Corporation

Steven V. Wilkinson  
Former Partner, Arthur Andersen LLP

**CORPORATE INFORMATION****Corporate headquarters**

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Aurora IL 60504  
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1.630.499.2666 *fax*  
[www.cabotcmp.com](http://www.cabotcmp.com)

**Investor information**

Contact our offices by mail at the  
address above, by telephone at  
1.630.499.2600 or at [www.cabotcmp.com](http://www.cabotcmp.com).

**Stock information**

Cabot Microelectronics is traded on  
NASDAQ under the symbol CCMP.

**Stock transfer agent and registrar**

Computershare Trust Company, N.A.  
P.O. Box 43010  
Providence RI 02940.3010  
1.781.575.3400  
[www.computershare.com](http://www.computershare.com)

**Independent auditors**

PricewaterhouseCoopers LLP  
Chicago IL

**Shareholder meeting**

The Annual Meeting of Shareholders  
will be held at 8 a.m. Central Time on  
March 7, 2006, at Cabot Microelectronics  
Corporation, 870 N. Commons Drive,  
Aurora IL.

**Form 10-K**

A copy of the Cabot Microelectronics  
Annual Report on Form 10-K for the  
fiscal year ended September 30, 2005,  
filed with the Securities and Exchange  
Commission, is enclosed and  
also available without charge at  
[www.cabotcmp.com](http://www.cabotcmp.com).



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