CABOT MICROELECTRONICS CORP
Form 10-K
November 23, 2010

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2010
or
o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

COMMISSION FILE NUMBER 000-30205

CABOT MICROELECTRONICS CORPORATION
(Exact name of registrant as specified in its charter)

DELAWARE	36-4324765
(State of Incorporation)	(I.R.S. Employer Identification No.)
870 NORTH COMMONS DRIVE AURORA, ILLINOIS	60504
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (630) 375-6631

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.001 par value	The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes [X] No [ ]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes [ ] No [X]

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to

submit and post such files). Yes [X] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer [X]	Accelerated filer [ ]	Non-accelerated filer [ ]	Smaller reporting company [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes [ ] No [X]

The aggregate market value of the registrant's Common Stock held beneficially or of record by stockholders who are not affiliates of the registrant, based upon the closing price of the Common Stock on March 31, 2010, as reported by the NASDAQ Global Select Market, was approximately $875,948,700. For the purposes hereof, "affiliates" include all executive officers and directors of the registrant.

As of October 31, 2010, the Company had 22,939,516 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for the Annual Meeting of Stockholders to be held on March 8, 2011, are incorporated by reference in Part III of this Form 10-K to the extent stated herein.

This Form 10-K includes statements that constitute "forward-looking statements" within the meaning of federal securities regulations. For more detail regarding "forward-looking statements" see Item 7 of Part II of this Form 10-K.

CABOT MICROELECTRONICS CORPORATION
FORM 10-K
FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2010

index

PART I

ITEM 1. BUSINESS

OUR COMPANY

Cabot Microelectronics Corporation ("Cabot Microelectronics", "the Company", "us", "we", or "our"), which was incorporated in the state of Delaware in 1999, is the leading supplier of high-performance polishing slurries and a growing CMP pad supplier used in the manufacture of advanced integrated circuit (IC) devices within the semiconductor industry, in a process called chemical mechanical planarization (CMP). CMP is a polishing process used by IC device manufacturers to planarize or flatten many of the multiple layers of material that are deposited upon silicon wafers in the production of advanced ICs. Our products play a critical role in the production of advanced IC devices, thereby enabling our customers to produce smaller, faster and more complex IC devices with fewer defects.

We currently operate predominantly in one industry segment – the development, manufacture and sale of CMP consumables. We develop, produce and sell CMP slurries for polishing many of the conducting and insulating materials used in IC devices, and also for polishing certain components in hard disk drives, specifically rigid disk substrates and magnetic heads. In addition, we develop, manufacture and sell CMP polishing pads, which are used in conjunction with slurries in the CMP process. We are also pursuing other demanding surface modification applications outside of the semiconductor and hard disk drive industries for which we believe our capabilities and knowledge may provide value in improved surface performance or productivity.

In February 2009, we acquired Epoch Material Co., Ltd. (Epoch), which previously was a consolidated subsidiary of Eternal Chemical Co., Ltd. (Eternal). Epoch is a Taiwan-based company specializing primarily in the development, manufacture and sale of copper CMP consumables. We believe the acquisition of Epoch provides an excellent opportunity to strengthen and grow our core CMP consumables business, primarily in the area of copper CMP slurries, and enhances our ability to innovate, deliver and support high-performing, world-class products to our customers around the world.

CMP PROCESS WITHIN IC DEVICE MANUFACTURING

IC devices are components in a wide range of electronic systems for computing, communications, manufacturing and transportation. Individual consumers most frequently encounter IC devices as microprocessors in their desktop or laptop computers and as memory chips in computers, tablet PCs, cell phones and digital cameras. The multi-step manufacturing process for IC devices typically begins with a circular wafer of pure silicon, with the first manufacturing step referred to as a “wafer start”. A large number of identical IC devices, or dies, are manufactured on each wafer at the same time. The first steps in the manufacturing process build transistors and other electronic components on the silicon wafer. These are isolated from each other using a layer of insulating material, most often silicon dioxide, to prevent electrical signals from bridging from one transistor to another. These components are then wired together using conducting materials such as aluminum or copper in a particular sequence to produce a functional IC device with specific characteristics. When the conducting wiring on one layer of the IC device is completed, another layer of insulating material is added. The process of alternating insulating and conducting layers is repeated until the desired wiring within the IC device is achieved. At the end of the process, the wafer is cut into the individual dies, which are then packaged to form individual chips.

Demand for CMP consumable products for IC devices is primarily based on the number of wafer starts by semiconductor manufacturers and the type and complexity of the IC devices they produce. To enhance the performance of IC devices, IC device manufacturers have progressively increased the number and density of electronic components and wiring layers in each IC device. As a result, the number of wires and the number of discrete wiring layers have increased. As the complexity of IC devices has increased, the demand for CMP consumable products has also increased. As semiconductor technology has advanced and performance requirements of IC devices have increased, the percentage of IC devices that utilize CMP in the manufacturing process has increased steadily over time. We believe that CMP is used in the majority of all IC devices made today, and we expect that the use of CMP will continue to increase in the future.

index

In the CMP polishing process, CMP consumables are used to remove excess material that is deposited during the IC manufacturing process, and to level and smooth the surfaces of the layers of IC devices, via a combination of chemical reactions and mechanical abrasion, leaving minimal residue or defects on the surface, and leaving only the material necessary for circuit integrity. CMP slurries are liquid solutions generally composed of high-purity deionized water and a proprietary mix of chemical additives and engineered abrasives that chemically and mechanically interact at an atomic level with the surface material of the IC device. CMP pads are engineered polymeric materials designed to distribute and transport the slurry to the surface of the wafer and distribute it evenly across the wafer. Grooves are cut into the surface of the pad to facilitate distribution of the slurry. During the CMP process the wafer is typically held on a rotating carrier, which is pressed down against a rotating polishing table and spun in a circular motion. The portion of the table that comes in contact with the wafer is covered by a polishing pad. A CMP slurry is continuously applied to the polishing pad to facilitate and enhance the polishing process. Hard disk drive manufacturers use similar processes to smooth the surface of substrate disks before depositing magnetic media onto the disk.

An effective CMP process is achieved through technical optimization of the CMP consumables in conjunction with an appropriately designed CMP process. Prior to introducing new or different CMP slurries or pads into its manufacturing process, an IC device manufacturer generally requires the product to be qualified in its processes through an extensive series of tests and evaluations. These qualifications are intended to ensure that the CMP consumable product will function properly within the customers' overall manufacturing processes. These tests and evaluations may require minor changes to the CMP process or the CMP slurry or pad. While this qualification process varies depending on numerous factors, it is generally quite costly and may take six months or longer to complete. IC device manufacturers usually take into account the cost, time required and impact on production when they consider implementing or switching to a new CMP slurry or pad.

CMP enables IC device manufacturers to produce smaller, faster and more complex IC devices with a greater density of transistors and other electronic components than is possible without CMP. By enabling IC device manufacturers to make smaller IC devices, CMP also allows them to increase the number of IC devices that fit on a wafer. This increase in the number of IC devices per wafer in turn increases the throughput, or the number of IC devices that can be manufactured in a given time period, and thereby reduces the cost per device. CMP also helps reduce the number of defective or substandard IC devices produced, which increases the device yield. Improvements in throughput and yield reduce an IC device manufacturer's unit production costs, and reducing costs is one of the highest priorities of a semiconductor manufacturer as the return on its significant investment in manufacturing capacity can be enhanced by lower unit costs. More broadly, sustained growth in the semiconductor industry traditionally has been fueled by enhanced performance and lower unit costs, making IC devices more affordable in an expanding range of applications.

PRECISION POLISHING

Through our Engineered Surface Finishes (ESF) business, we are applying our technical expertise in CMP consumables and polishing techniques developed for the semiconductor industry to demanding applications in other industries where shaping, enabling and enhancing the performance of surfaces is critical to success.

Many of the production processes currently used in precision machining and polishing have been based on traditional, labor-intensive techniques, which are being replaced by computer-controlled, deterministic processes. Our wholly-owned subsidiary, QED Technologies International, Inc. (QED), is a leading provider of deterministic finishing technology for the precision optics industry. We believe precision optics are pervasive, serving several existing large markets such as semiconductor equipment, aerospace, defense, security and telecommunications.

4

index

OUR PRODUCTS

CMP CONSUMABLES FOR IC DEVICES

We develop, produce and sell CMP slurries for a wide range of polishing applications of materials that conduct electrical signals, including tungsten, copper, aluminum and tantalum (commonly referred to as “copper barrier” or “barrier”). Slurries for polishing tungsten are used heavily in the production of memory devices for a multitude of end applications such as computers, MP3 players, cellphones, gaming devices, digital photography and digital video recorders, as well as in mature logic applications such as those used in automobiles. Our most advanced slurries for tungsten polishing are designed to be customized to provide customers greater flexibility, improved performance and a reduced cost of ownership. Our slurries for polishing copper and barrier materials are used primarily in the production of advanced IC logic devices such as microprocessors for computers, and devices for graphic systems, gaming systems and communication devices. These products include different slurries for polishing the copper film and the thin barrier layer used to separate copper from the adjacent insulating material. These same copper and barrier slurries are now being used in the CMP process for memory devices as well. We offer multiple products for each technology node to enable different integration schemes depending on specific customer needs.

We also develop, manufacture and sell slurry products used to polish the dielectric insulating materials that separate conductive layers within logic and memory IC devices. Our core slurry products for these materials are primarily used for high volume applications called Interlayer Dielectric or ILD. Our advanced dielectrics products are designed to meet the more stringent and complex performance requirements of lower-volume, more specialized dielectric polishing applications at advanced technology nodes.

We develop, produce and sell CMP polishing pads, which are consumable materials that work in conjunction with CMP slurries in the CMP polishing process. We believe that CMP polishing pads represent a natural adjacency to our CMP slurry business, since the technologies are closely related and utilize the same technical and sales infrastructure. We believe our unique pad material and our continuous pad manufacturing process enable us to produce a pad with a longer pad life, greater consistency from pad to pad, and enhanced performance, resulting in lower cost of ownership for our customers. We are producing and selling pads that can be used on a variety of polishing tools, over a range of applications including tungsten, copper and dielectrics, over a range of technology nodes, and on both 200mm and 300mm wafers.

CMP CONSUMABLES FOR THE DATA STORAGE INDUSTRY

We develop and produce CMP slurries for polishing the materials that coat rigid disks and magnetic heads used in hard disk drives for computer and other data storage applications, which represent an extension of our core CMP slurry technology and manufacturing capabilities established for the semiconductor industry. We believe CMP significantly improves the surface finish of these coatings, resulting in greater storage capacity of the hard disk drive systems, and also improves the production efficiency of manufacturers of hard disk drives by helping increase their throughput and yield.

PRECISION OPTICS PRODUCTS

Through our QED subsidiary, we design and produce precision polishing and metrology systems for advanced optic applications that allow customers to attain near-perfect shape and surface finish on a range of optical components such

as mirrors, lenses and prisms. Historically, advanced optics have been produced using labor-intensive artisan processes, and variability has been common. QED has automated the polishing process for advanced optics to enable rapid, deterministic and repeatable surface correction to the most demanding levels of precision in dramatically less time than with traditional means. QED's polishing systems use Magneto-Rheological Finishing (MRF), a proprietary surface figuring and finishing technology, which employs magnetic fluids and sophisticated computer technology to polish a variety of shapes and materials. Its metrology systems use Subaperture Stitching Interferometry (SSI) technology that captures precise metrology data for large and/or strongly curved optical parts and an Aspheric Stitching Interferometer (ASI), which is designed to measure increasingly complex shapes, including non-spherical surfaces, or aspheres.

index

STRATEGY

We collaborate closely with our customers to design and manufacture products that offer innovative and reliable solutions to our customers' challenges and we strive to consistently and reliably deliver and support these products around the world. We continue to focus on the execution of our primary strategy of strengthening and growing our core CMP consumables business within the semiconductor and hard disk drive industries. We are also leveraging our expertise in CMP process and slurry formulation to expand our ESF business in the optics and electronic substrates markets.

STRENGTHEN AND GROW OUR CORE CMP CONSUMABLES BUSINESS

As the leader in the CMP slurry industry, we intend to grow our core CMP consumables business through the execution of our three strategic initiatives – maintaining our technological leadership, striving for operations excellence and connecting with our customers. We believe our strong financial position allows us to fund growth opportunities in our core CMP consumables business through internally developed technologies as well as through potential acquisitions of technologies and businesses such as our acquisition of Epoch in fiscal 2009.

Technology Leadership: We believe that technology and innovation are vital to success in our CMP consumables business and we devote significant resources to research and development. We continue to develop and produce new CMP products to address existing and new CMP applications and we have built a strong, worldwide intellectual property portfolio to protect our investment in these new products. We believe our new product pipeline contains a number of high-value products that will provide our customers with enabling solutions across a number of CMP application areas at advanced technology nodes. We need to stay ahead of the rapid technological advances in the electronics industry in order to deliver a broad line of CMP consumables products that meet or exceed our customers' evolving needs. We have established research and development facilities in the United States, Japan, Taiwan and Singapore in order to meet our customers' technology needs on a global basis.

Operations Excellence: We believe that product and supply chain quality is critical to success in our business. Our customers demand increasing performance of our products in terms of product quality and consistency. We strive to drive out variation in our products and processes in order to increase quality, productivity and efficiency, and improve the uniformity and consistency of performance of our CMP consumable products. Our global manufacturing sites are managed to ensure we have the people, training and systems needed to support the unique industry demands for product quality. To support our operations excellence initiative, we have adopted the concepts of Six Sigma across our Company. Six Sigma is a systematic, data-driven approach and methodology for improving quality by reducing variability. We believe our Six Sigma initiatives have contributed to significant, sustained improvement in productivity in our operations over the past six fiscal years, which we believe contributed to the improvement in our gross profit margin in fiscal 2010. We also have extended our Six Sigma initiative to include joint projects with customers and vendors. We continue to make improvements to our supply chain to improve the quality and consistency of our products, processes and raw materials, as well as to expand our production capacity.

Connecting With Our Customers: We believe that building close relationships with our customers is a key to achieving long-term success in our business. We collaborate with our customers on joint projects to identify and develop new and better CMP consumables, to integrate our products into their manufacturing processes, and to assist them with supply, warehousing and inventory management. Our customers demand a highly reliable supply source, and we believe we have a competitive advantage because of our ability to timely deliver high-quality products and service from the early stages of product development through the high-volume commercial use of our products. We

strategically locate our research facilities and clean rooms, manufacturing operations and the related technical and customer support teams to be responsive to our customers' needs. We believe our extensive research and development facilities in close proximity to our customers provides a competitive advantage as our customers are able to test our CMP products on their wafers in our facilities during periods of strong semiconductor industry demand, rather than diverting their production resources from producing IC devices to testing CMP products. In addition, we recently announced we have entered into a non-binding memorandum of understanding with the Gyeonggi Province of South Korea to potentially establish manufacturing and research and development capabilities there, in close proximity to some of the largest manufacturers of memory devices in the world.

index

The following are some examples of the successful execution of our strategic initiatives during fiscal 2010.

- Through our Six Sigma initiatives and through other mechanisms, we have driven sustained improvements in our supply chain operations.
  - o In fiscal 2010, we improved manufacturing yields for our CMP slurry products. The improvement in yields combined with an increase in the utilization of our manufacturing capacity helped us achieve our highest gross profit margin since fiscal 2003.
  - o We achieved a record level of productivity improvement in fiscal 2010 and have reduced product variation by more than 90 percent over the past six years.
  - o We successfully achieved a sustained period of high production levels, following a period of great volatility in fiscal 2009.
- We continued to grow our pad business, increasing pad revenue nearly 70%, from $17.7 million in fiscal 2009 to $29.9 million in fiscal 2010.
  - o We successfully transitioned a portion of our manufacturing activity to the on-site production facility within one of Taiwan Semiconductor Manufacturing Company's (TSMC) fabs. This has enabled us to reduce logistics and packaging costs as well as improve our turnaround time to fill TSMC orders.
  - o We continued to make progress in the development of new pad products. We are alpha testing our next generation pad platform, the D200, with a small number of customers and we have a number of customers evaluating product extensions within our existing D100 product portfolio.
- We continued to capture customer feedback through a variety of avenues, including customer-supplied scorecards and Company-initiated surveys. We use the feedback from our customers to drive further improvements in our business to increase customer satisfaction.
  - o Our customer satisfaction performance, based on customer-supplied scorecards and our own surveys, has continued to improve year after year.
  - o We continued to receive customer awards recognizing the Company as a key supplier, including supplier awards from a number of key customers including TSMC, Intel, United Microelectronics Corporation (UMC) and Samsung.

LEVERAGE OUR EXPERTISE INTO NEW MARKETS - ENGINEERED SURFACE FINISHES BUSINESS

In addition to strengthening and growing our core CMP business, we continue to pursue development of our ESF business. We believe we can leverage our expertise in CMP consumables for the semiconductor industry to develop products for demanding polishing applications in other industries that are synergistic to our CMP consumables business. We are focusing on opportunities in precision optics and electronic substrates.

Similar to our core CMP business, our ESF business is technology driven. For example, we believe our QED subsidiary is the technology leader in deterministic finishing for the precision optics industry. In fiscal 2010, QED commercialized its new ASI technology, which enables customers to measure complex optical shapes, including steeply non-spherical surfaces.

INDUSTRY TRENDS

SEMICONDUCTOR INDUSTRY

We believe the semiconductor industry continues to demonstrate several clear trends: the semiconductor business demonstrates cyclical growth; there is constant pressure to reduce costs; and the customer base is consolidating.

7

index

The cyclical nature of the semiconductor industry is closely tied to the global economy as well as to supply and demand within the industry. The semiconductor industry experienced significant growth during our fiscal 2010, following its contraction in fiscal 2009 due to the severe global recession. This strong industry recovery positively affected the demand for our products. We began to see signs of recovery in the semiconductor industry during the second half of fiscal 2009 as semiconductor manufacturers began to replenish inventories in response to improvement in the underlying demand. In response to this increase in underlying demand, semiconductor manufacturers have increased their production of IC devices to levels which may require additions to their production capacity, which could positively affect the future demand for our products. Although the timing and pace of a broad global economic recovery remains uncertain, we believe that semiconductor industry demand will grow over the long term based on increased usage of IC devices and an expanding range of uses of these devices. We also believe that our Company is well positioned to operate successfully over a range of demand environments as we have successfully navigated our business through a number of industry cycles in the past.

As the demand for more advanced and lower cost electronic devices grows, there is continued pressure on IC device manufacturers to reduce their costs. Many manufacturers reduce costs by pursuing ever-increasing scale in their operations. In addition, manufacturers seek ways to increase their production yield while reducing their production costs regardless of the number of units they produce. They look for CMP consumables products with improved quality and performance that reduce their overall cost of ownership, they pursue ways to use less CMP materials, and they also aggressively pursue price reductions on the materials they buy. This pressure on manufacturers to reduce costs has also led a number of integrated device manufacturers to continually increase the use of foundries where they can outsource some or all of their manufacturing to reduce their fixed costs. This approach also leads to increasing scale and lower costs for these foundries.

The number of semiconductor manufacturers continues to decline both through mergers and acquisitions as well as through alliances among different companies. Smaller manufacturers do not appear to have the technology or resources necessary to compete with the large manufacturers on the global basis needed in today's market. Many of our customers are forming consortia and research and development alliances to better manage the high cost of their development activities.

CMP CONSUMABLES INDUSTRY

Demand for CMP consumables is primarily driven by wafer starts, so the CMP consumables industry reflects the cyclicality of the semiconductor industry as well as changes in global economic conditions. Our financial results for fiscal years 2010 and 2009 clearly demonstrated these effects. We saw the benefits of increased production levels in the semiconductor industry in fiscal 2010 as our revenues in fiscal 2010 increased over 40% from fiscal 2009. This was in stark contrast to the first half of our fiscal 2009 when we saw the adverse effects of the global economic recession that caused our revenues for the first six months of fiscal 2009 to decrease over 42% from the comparable period of fiscal 2008. Over the long term, we anticipate the worldwide market for CMP consumables used by IC device manufacturers will grow as a result of expected long term growth in wafer starts, growth in the percentage of IC devices produced that require CMP, an increase in the number of CMP polishing steps required to produce these devices and the introduction of new materials in the manufacture of semiconductor devices.

We expect the anticipated growth in demand will be somewhat mitigated by increased efficiencies in CMP consumable usage as customers seek to reduce their costs. Semiconductor manufacturers look for ways to lower the cost of CMP consumables in their production operations, including diluting slurry or reducing the slurry flow rate during production to reduce the total amount of slurry used, and extending the polishing time before replacing pads.

As semiconductor technology continues to advance, we believe that CMP technical solutions are becoming more complex, and leading-edge technologies generally require some customization by customer, tool set and process integration approach. Leading-edge device designs are introducing more materials and processes into next generation chips, and these new materials and processes must be considered in developing CMP solutions. As a result, customers are selecting suppliers earlier in their development processes and are maintaining preferred supplier relationships through production. We believe that close collaboration between customers and suppliers offers the best opportunity for optimal CMP solutions. We also believe that research and development programs are important as we develop innovative, high-performing and more cost-effective CMP solutions.

index

COMPETITION

We compete in the CMP consumables industry, which is characterized by rapid advances in technology and demanding product quality and consistency requirements. We face competition from other CMP consumables suppliers, and we also may face competition in the future from significant changes in technology or emerging technologies. However, we believe we are well positioned to continue our leadership in the CMP slurry industry, and to continue to grow our CMP pad business. We believe we have the experience, scale, capabilities and infrastructure that are required for success, and we work closely with the largest customers in the semiconductor industry to meet their growing expectations.

Our CMP slurry competitors range from small companies that compete with a single product and/or in a single geographic region to divisions of global companies with multiple lines of CMP products for IC manufacturers. However, we believe we have more CMP slurry business than any other provider. In our view, we are the only CMP slurry supplier today that serves a broad range of customers by offering and supporting a full line of CMP slurry products for all major applications over a range of technologies, and that has a proven track record of supplying these products globally in high volumes with the attendant required high level of technical support services.

With respect to CMP polishing pads, a single entity has held the dominant market position for a number of years. A number of other companies are attempting to enter this market, providing potentially viable product alternatives. We believe our pad materials and our continuous pad manufacturing process have enabled us to produce a pad with a longer pad life, lower defectivity and greater consistency for our customers, thus reducing their total pad cost. We believe this has fueled significant growth in sales of our pad products and we are currently alpha testing with our customers our next generation of pad products which we believe could offer our customers an even better solution over a broad range of applications. We believe we are now the second largest seller of polishing pads in the world.

Our QED subsidiary operates in the precision optics industry. There are few direct competitors of QED because its technology is relatively new and unique. We believe QED's technology provides a competitive advantage to customers in the precision optics industry which still relies heavily on traditional artisan-based methods of fabrication.

CUSTOMERS, SALES AND MARKETING

Within the semiconductor industry, our customers are primarily producers of logic IC devices, producers of memory IC devices and IC foundries. Often, logic and memory companies outsource some or all of the production of their devices to foundries, which provide contract manufacturing services, in order to avoid the high cost of process development, constructing and operating a fab, or in cases where they need additional capacity.

Based upon our own observations and customer survey results, we believe the following factors influence our customers' CMP buying decisions: overall cost of ownership, which represents the cost to purchase, use and maintain a product; product quality and consistency; product yield and performance; engineering support; and delivery/supply assurance. We believe that greater customer sophistication in the CMP process, more demanding integration schemes, additional and unique polishing materials and cost pressures will add further demands on CMP consumable suppliers. When these factors are combined with our customers' desires to gain purchasing leverage and lower their cost of ownership, we believe that only the most reliable, innovative, cost effective, service driven CMP consumables suppliers will thrive.

We use an interactive approach to build close relationships with our customers in a variety of areas and we have customer-focused teams located in each major geographic region of sales. Our sales process begins long before the

actual sale of our products and occurs on a number of levels. Due to the long lead times from research and development to product commercialization and sales, we have research teams that collaborate with customers on emerging applications years before the products are required by the market. We also have development teams that coordinate with our customers, using our research and development facilities and capabilities to design CMP products tailored to their precise needs. Next, our applications engineers work with customers to integrate our products into their manufacturing processes. Finally, as part of our sales process, our logistics and sales personnel provide supply, warehousing and inventory management for our customers.

index

We market our products primarily through direct sales to our customers, although we use distributors in select areas. We believe this strategy is one way we can achieve our goal of connecting more closely with our customers.

Our QED subsidiary supports customers in the semiconductor equipment, aerospace, defense, security and telecommunications markets. QED counts among its worldwide customers leading precision optics manufacturers, major semiconductor original equipment manufacturers, the United States government and its contractors.

In fiscal 2010, our five largest customers accounted for approximately 48% of our revenue, with TSMC and UMC accounting for approximately 18% and 11% of our revenue, respectively. For additional information on concentration of customers, refer to Note 2 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Form 10-K.

RESEARCH, DEVELOPMENT AND TECHNICAL SUPPORT

We believe that technology is vital to success in our CMP business and in our ESF business, and we plan to continue to devote significant resources to research, development and technical support (R&D), and balance our efforts between the shorter-term market needs and the longer-term investments required of us as a technology leader. We develop and formulate new and enhanced CMP consumables and new CMP processes tailored to our customers' needs. We work closely with our customers at their facilities to identify their specific technology and manufacturing challenges and to translate these challenges into viable CMP process solutions.

Our technology efforts are currently focused on five main areas that span the early conceptual stage of product development involving new materials, processes and designs several years in advance of commercialization, through to continuous improvement of already commercialized products in daily use in our customers' manufacturing facilities. These five areas are:

- Research related to fundamental CMP technology;
- Development and formulation of new and enhanced CMP consumables products, including collaborating on joint development projects with our customers;
- Process development to support rapid and effective commercialization of new products;
- Technical support of CMP products in our customers' manufacturing facilities; and
- Evaluation and development of new polishing and metrology applications outside of the semiconductor industry.

Our research in CMP slurries and pads addresses a breadth of complex and interrelated performance criteria that relate to the functional performance of the chip, our customers' manufacturing yields, and their overall cost of ownership. We design slurries and pads that are capable of polishing one or more materials of differing hardness, sometimes at the same time, that make up the semiconductor circuitry. Additionally, our products must achieve the desired surface conditions at high polishing rates, high processing yields and low consumables costs in order to earn acceptable system economics for our customers. As dimensions become smaller and as materials and designs increase in complexity, these challenges require significant investments in R&D.

We also commit internal R&D resources to our ESF business. We believe that application areas we are currently developing, such as precision optics and electronic substrates, represent natural adjacencies to our core CMP business and technology. Products under development include products used to polish silicon and silicon-carbide wafers to improve the surface quality of these wafers and reduce the customers' total cost of ownership.

10

index

We believe that a competitive advantage may be gained through technology leadership, and that our investments in R&D provide us with leading-edge polishing and metrology capabilities to support the most advanced and challenging customer technology requirements on a global basis. In fiscal 2010, 2009 and 2008, we incurred approximately $51.8 million, $48.2 million and $49.2 million, respectively, in R&D expenses. We believe our Six Sigma initiatives in our R&D efforts allow us to conduct more research at a lower cost. Investments in property, plant and equipment to support our R&D efforts are capitalized and depreciated over their useful lives. We operate a R&D facility in Aurora, Illinois, that is staffed by a team that includes experts from the semiconductor industry and scientists from key disciplines required for the development of high-performance CMP consumable products. This facility features a Class 1 clean room and advanced equipment for product development, including 300 mm polishing and metrology capabilities, the experimental results from which we believe correlate with what our customers experience when using our products in their factories. In addition, we operate a technology center in Japan, which includes 300 mm polishing, metrology and slurry development capability, which we believe enhances our ability to provide optimized CMP solutions to our customers in the Asia Pacific region. Epoch also has R&D capability, including a clean room with 200 mm polishing capability. All of these facilities underscore our commitment both to continuing to invest in our technology infrastructure to maintain our technology leadership, and to becoming even more responsive to the needs of our customers. Other examples of this commitment include our QED research facility in Rochester, New York, as well as our laboratory in Singapore that provides additional slurry formulation capability to support the data storage industry.

RAW MATERIALS SUPPLY

Metal oxides, such as silica and alumina, are significant raw materials we use in many of our CMP slurries. In the interest of supply assurance, our strategy is to secure multiple sources of raw materials and qualify and monitor those sources as necessary to ensure our supply of raw materials remains uninterrupted. Also, we have entered into multi-year supply agreements with a number of suppliers for the purchase of raw materials, including agreements with Cabot Corporation, which is not a related party, for the purchase of certain amounts and types of fumed silica and fumed alumina. For additional information regarding these agreements, refer to “Tabular Disclosure of Contractual Obligations”, included in “Management’s Discussion and Analysis of Financial Condition and Results of Operations”, in Item 7 of Part II of this Form 10-K.

INTELLECTUAL PROPERTY

Our intellectual property is important to our success and ability to compete. As of October 31, 2010, we had 201 active U.S. patents and 82 pending U.S. patent applications. In most cases we file counterpart foreign patent applications. Many of these patents are important to our continued development of new and innovative products for CMP and related processes, as well as for new businesses. Our patents have a range of duration and we do not expect to lose any material patent through expiration in the next five years. We attempt to protect our intellectual property rights through a combination of patent, trademark, copyright and trade secret laws, as well as employee and third party nondisclosure and assignment agreements. We vigorously and proactively pursue parties that attempt to compromise our investments in research and development by infringing our intellectual property. For example, in January 2007, we filed a legal action against DuPont Air Products NanoMaterials LLC (DA Nano), a competitor of ours, charging that DA Nano’s manufacture and marketing of certain CMP slurries infringe certain CMP slurry patents that we own, as a counterclaim to DA Nano’s filing an action charging that those patents are invalid. In July 2010, a jury trial was completed in connection with this ongoing litigation where the validity of all of our patents at issue in the matter was upheld. We believe this is important because the testing of these patents through the U.S. judicial process has increased the strength of our intellectual property and our ability to enforce it. However, we were disappointed that

the jury did not find that DA Nano's products at issue infringe on our patents. In November 2010, we filed a Notice of Appeal regarding infringement, and DA Nano filed a cross-appeal. With respect to the same patents, we have been successful before the United States International Trade Commission in prohibiting the importation and sale within the United States of infringing products by another competitor.

index

Most of our intellectual property has been developed internally, but we also may acquire intellectual property from others to enhance our intellectual property portfolio. These enhancements may be via licenses or assignments or we may acquire certain proprietary technology and intellectual property when we make acquisitions, such as through our acquisitions of Epoch, QED and Surface Finishes Co. We believe these technology rights continue to enhance our competitive advantage by providing us with future product development opportunities and expanding our already substantial intellectual property portfolio.

ENVIRONMENTAL MATTERS

Our facilities are subject to various environmental laws and regulations, including those relating to air emissions, wastewater discharges, the handling and disposal of solid and hazardous wastes, and occupational safety and health. We believe that our facilities are in substantial compliance with applicable environmental laws and regulations. By utilizing Six Sigma in our environmental management system process, we believe we have improved operating efficiencies while protecting the environment. Our operations in the United States, Japan, Singapore, Wales and Taiwan are ISO 14001 certified, which requires that we implement and operate according to various procedures that demonstrate our dedication to waste reduction, energy conservation and other environmental concerns. We are committed to maintaining these certifications and are actively pursuing ISO 18001 Safety and Health certification for our existing operations over the next two years. We will also obtain additional certifications, as applicable, in the areas in which we do business. We have incurred, and will continue to incur, capital and operating expenditures and other costs in complying with these laws and regulations in both the United States and abroad. However, we currently do not anticipate that the future costs of environmental compliance will have a material adverse effect on our business, financial condition or results of operations.

EMPLOYEES

We believe we have a world-class team of employees who make our Company successful. As of October 31, 2010, we employed 933 individuals, including 493 in operations, 229 in research and development and technical, 96 in sales and marketing and 115 in administration. None of our employees are covered by collective bargaining agreements. We have not experienced any work stoppages and in general consider our relations with our employees to be good.

FINANCIAL INFORMATION ABOUT GEOGRAPHIC AREAS

We sell our products worldwide. Our geographic coverage allows us to utilize our business and technical expertise from a worldwide workforce, provides stability to our operations and revenue streams to offset geography-specific economic trends, and offers us an opportunity to take advantage of new markets for products.

For more financial information about geographic areas, see Note 19 of “Notes to the Consolidated Financial Statements” included in Item 8 of Part II of this Form 10-K.

AVAILABLE INFORMATION

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, definitive proxy statements on Form 14A, current reports on Form 8-K, and any amendments to those reports are made available free of charge on our Company website, www.cabotcmp.com, as soon as reasonably practicable after such reports are filed with the Securities and

Exchange Commission (SEC). Statements of changes in beneficial ownership of our securities on Form 4 by our executive officers and directors are made available on our Company website by the end of the business day following the submission to the SEC of such filings. In addition, the SEC's website (http://www.sec.gov) contains reports, proxy statements, and other information that we file electronically with the SEC.

index

ITEM 1A. RISK FACTORS

We do not believe there have been any material changes in our risk factors since the filing of our Annual Report on Form 10-K for the fiscal year ended September 30, 2009. However, we may update our risk factors in our SEC filings from time to time for clarification purposes or to include additional information, at management's discretion, even when there have been no material changes.

RISKS RELATING TO OUR BUSINESS

DEMAND FOR OUR PRODUCTS FLUCTUATES AND OUR BUSINESS MAY BE ADVERSELY AFFECTED BY WORLDWIDE ECONOMIC AND INDUSTRY CONDITIONS

Our business is affected by economic and industry conditions and our revenue is dependent upon semiconductor demand. Semiconductor demand, in turn, is impacted by semiconductor industry cycles, and these cycles can dramatically affect our business. These cycles may be characterized by rapid increases or decreases in product demand, excess or low customer inventories, and rapid changes in prices of IC devices. In the first half of fiscal 2009, our business was significantly impacted by the global economic recession. We first began to see significant adverse effects of this in our fourth quarter of fiscal 2008 as the reduction in end user demand for IC devices caused semiconductor manufacturers to reduce their production, which reduced the demand for our CMP consumables products. Weakness in the U.S. and global economy and stress in the financial markets caused a significant decrease in demand for our products during the first half of fiscal 2009, and our revenue decreased dramatically from revenue earned in fiscal 2008. Demand for our products increased significantly during the second half of fiscal 2009 and this strength in demand continued throughout fiscal 2010. While we continue to see positive signs of growth in the semiconductor industry, it is difficult to predict trends due to our limited visibility to future customer orders. If the global economy falters and conditions begin to deteriorate again, we could experience material adverse impacts on our results of operations and financial condition.

Adverse global economic conditions may have other negative effects on our Company such as:

- The ability of our customers to pay their obligations to us may be adversely affected causing a negative impact on our cash flows and our results of operations as evidenced by the bankruptcy filings of a small number of our customers in fiscal 2009.
- The carrying value of our goodwill and other intangible assets may decline in value, which could harm our financial position and results of operations.
- Our suppliers may not be able to fulfill their obligations to us, which could harm our production process and our business.

Some additional factors that affect demand for our products include customers’ production of logic versus memory devices, customers’ specific manufacturing process integration schemes, share gains and losses and pricing changes by us and our competitors.

WE HAVE A NARROW PRODUCT RANGE AND OUR PRODUCTS MAY BECOME OBSOLETE, OR TECHNOLOGICAL CHANGES MAY REDUCE OR LIMIT INCREASES IN THE CONSUMPTION OF CMP SLURRIES AND PADS

Our business is substantially dependent on a single class of products, CMP slurries, which account for the majority of our revenue. Our business in CMP pads is also developing and growing. Our business would suffer if these products

became obsolete or if consumption of these products decreased. Our success depends on our ability to keep pace with technological changes and advances in the semiconductor industry and to adapt, improve and customize our products for advanced IC applications in response to evolving customer needs and industry trends. Since its inception, the semiconductor industry has experienced rapid technological changes and advances in the design, manufacture, performance and application of IC devices, and our customers continually pursue lower cost of ownership of materials consumed in their manufacturing processes, including CMP slurries and pads. We expect these technological changes and advances, and this drive toward lower costs, will continue in the future. Potential technology developments in the semiconductor industry, as well as our customers' efforts to reduce consumption of CMP consumables and to possibly reuse or recycle these products, could render our products less important to the IC device manufacturing process.

index

A SIGNIFICANT AMOUNT OF OUR BUSINESS COMES FROM A LIMITED NUMBER OF LARGE CUSTOMERS AND OUR REVENUE AND PROFITS COULD DECREASE SIGNIFICANTLY IF WE LOST ONE OR MORE OF THESE CUSTOMERS

Our customer base is concentrated among a limited number of large customers. One or more of these principal customers could stop buying CMP consumables from us or could substantially reduce the quantity of CMP consumables purchased from us. Our principal customers also hold considerable purchasing power, which can impact the pricing and terms of sale of our products. Any deferral or significant reduction in CMP consumables sold to these principal customers, or a significant number of smaller customers, could seriously harm our business, financial condition and results of operations.

In fiscal 2010, our five largest customers accounted for approximately 48% of our revenue, with Taiwan Semiconductor Manufacturing Company (TSMC) and United Microelectronics Corporation (UMC) accounting for approximately 18% and 11%, respectively, of our revenue. In fiscal 2009, our five largest customers accounted for approximately 42% of our revenue; with TSMC accounting for approximately 17% of our revenue. UMC accounted for less than 10% of our revenue in fiscal 2009.

OUR BUSINESS COULD BE SERIOUSLY HARMED IF OUR COMPETITORS DEVELOP SUPERIOR SLURRY PRODUCTS, OFFER BETTER PRICING TERMS OR SERVICE, OR OBTAIN CERTAIN INTELLECTUAL PROPERTY RIGHTS

Competition from other CMP slurry manufacturers could seriously harm our business and results of operations. Competition from other providers of CMP slurries could continue to increase, and opportunities exist for other companies to emerge as potential competitors by developing their own CMP slurry products. Increased competition has and may continue to impact the prices we are able to charge for our slurry products as well as our overall business. In addition, our competitors could have or obtain intellectual property rights which could restrict our ability to market our existing products and/or to innovate and develop new products.

ANY PROBLEM OR DISRUPTION IN OUR SUPPLY CHAIN, INCLUDING SUPPLY OF OUR MOST IMPORTANT RAW MATERIALS, OR IN OUR ABILITY TO MANUFACTURE AND DELIVER OUR PRODUCTS TO OUR CUSTOMERS, COULD ADVERSELY AFFECT OUR RESULTS OF OPERATIONS

We depend on our supply chain to enable us to meet the demands of our customers. Our supply chain includes the raw materials we use to manufacture our products, our production operations, and the means by which we deliver our products to our customers. Our business could be adversely affected by any problem or interruption in our supply of the key raw materials we use in our CMP slurries and pads, including fumed silica, which we use for certain of our slurries, or any problem or interruption that may occur during production or delivery of our products, such as weather-related problems or natural disasters.

For instance, Cabot Corporation continues to be our primary supplier of particular amounts and types of fumed silica. We believe it would be difficult to promptly secure alternative sources of key raw materials, including fumed silica, in the event one of our suppliers becomes unable to supply us with sufficient quantities of raw materials that meet the quality and technical specifications required by our customers. In addition, contractual amendments to the existing agreements with, or non-performance by, our suppliers, including any significant financial distress our suppliers may suffer, could adversely affect us. Also, if we change the supplier or type of key raw materials we use to

make our CMP slurries or pads, or are required to purchase them from a different manufacturer or manufacturing facility or otherwise modify our products, in certain circumstances our customers might have to requalify our CMP slurries and pads for their manufacturing processes and products. The requalification process could take a significant amount of time and expense to complete and could motivate our customers to consider purchasing products from our competitors, possibly interrupting or reducing our sales of CMP consumables to these customers.

index

WE ARE SUBJECT TO RISKS ASSOCIATED WITH OUR FOREIGN OPERATIONS

We currently have operations and a large customer base outside of the United States. Approximately 86%, 84% and 81% of our revenue was generated by sales to customers outside of the United States for fiscal 2010, 2009 and 2008, respectively. We encounter risks in doing business in certain foreign countries, including, but not limited to, adverse changes in economic and political conditions, fluctuation in exchange rates, compliance with a variety of foreign laws and regulations, as well as difficulty in enforcing business and customer contracts and agreements, including protection of intellectual property rights.

WE MAY PURSUE ACQUISITIONS OF, INVESTMENTS IN, AND STRATEGIC ALLIANCES WITH OTHER ENTITIES, WHICH COULD DISRUPT OUR OPERATIONS AND HARM OUR OPERATING RESULTS IF THEY ARE UNSUCCESSFUL

We expect to continue to make investments in companies, either through acquisitions, investments or alliances, in order to supplement our internal growth and development efforts. Acquisitions and investments, including our acquisition of Epoch Material Co., Ltd., a Taiwan-based company, the first closing of which we completed in the fiscal quarter ended March 31, 2009 and the final closing of which we completed in the fiscal quarter ended September 30, 2010, involve numerous risks, including the following: difficulties in integrating the operations, technologies, products and personnel of acquired companies; diversion of management's attention from normal daily operations of the business; increased risk associated with foreign operations; potential difficulties in entering markets in which we have limited or no direct prior experience and where competitors in such markets have stronger market positions; potential difficulties in operating new businesses with different business models; potential difficulties with regulatory or contract compliance in areas in which we have limited experience; initial dependence on unfamiliar supply chains or relatively small supply partners; insufficient revenues to offset increased expenses associated with acquisitions; potential loss of key employees of the acquired companies; or inability to effectively cooperate and collaborate with our alliance partners.

Further, we may never realize the perceived or anticipated benefits of a business combination or investments in other entities. Acquisitions by us could have negative effects on our results of operations, in areas such as contingent liabilities, gross profit margins, amortization charges related to intangible assets and other effects of accounting for the purchases of other business entities. Investments in and acquisitions of technology-related companies are inherently risky because these businesses may never develop, and we may incur losses related to these investments. In addition, we may be required to write down the carrying value of these acquisitions or investments to reflect other than temporary declines in their value, which could harm our business and results of operations.

BECAUSE WE HAVE LIMITED EXPERIENCE IN BUSINESS AREAS OUTSIDE OF CMP SLURRIES, EXPANSION OF OUR BUSINESS INTO NEW PRODUCTS AND APPLICATIONS MAY NOT BE SUCCESSFUL

An element of our strategy has been to leverage our current customer relationships and technological expertise to expand our CMP business from CMP slurries into other areas, such as CMP polishing pads. Additionally, pursuant to our Engineered Surface Finishes business, we are pursuing other surface modification applications. Expanding our business into new product areas could involve technologies, production processes and business models in which we have limited experience, and we may not be able to develop and produce products or provide services that satisfy customers' needs or we may be unable to keep pace with technological or other developments. Also, our competitors

may have or obtain intellectual property rights which could restrict our ability to market our existing products and/or to innovate and develop new products.

index

BECAUSE WE RELY HEAVILY ON OUR INTELLECTUAL PROPERTY, OUR FAILURE TO ADEQUATELY OBTAIN OR PROTECT IT COULD SERIOUSLY HARM OUR BUSINESS

Protection of intellectual property is particularly important in our industry because we develop complex technical formulas for CMP products that are proprietary in nature and differentiate our products from those of our competitors. Our intellectual property is important to our success and ability to compete. We attempt to protect our intellectual property rights through a combination of patent, trademark, copyright and trade secret laws, as well as employee and third-party nondisclosure and assignment agreements. Due to our international operations, we pursue protection in different jurisdictions, which may provide varying degrees of protection, and we cannot provide assurance that we can obtain adequate protection in each such jurisdiction. Our failure to obtain or maintain adequate protection of our intellectual property rights for any reason, including through the patent prosecution process or in the event of litigation related to such intellectual property, such as the current litigation between us and DuPont Air Products NanoMaterials (DA Nano), in which the validity of all of our patents at issue in the matter was recently upheld as further described above in Part I, Item 1 under the heading “Intellectual Property” and in Part I, Item 3 under the heading “Legal Proceedings”, could seriously harm our business. In addition, the costs of obtaining or protecting our intellectual property could negatively affect our operating results. For example, in fiscal 2010, costs associated with enforcing our intellectual property caused our operating expenses to increase.

WE MAY NOT BE ABLE TO MONETIZE OUR INVESTMENTS IN AUCTION RATE SECURITIES IN THE SHORT TERM AND WE COULD EXPERIENCE A DECLINE IN THEIR MARKET VALUE, WHICH COULD ADVERSELY AFFECT OUR FINANCIAL RESULTS

We owned auction rate securities (ARS) with an estimated fair value of $8.1 million ($8.3 million par value) at September 30, 2010, which were classified as Other Long-Term Assets on our Consolidated Balance Sheet. If current illiquidity in the ARS market does not lessen, if issuers of our ARS are unable to refinance the underlying securities, or are unable to pay debt obligations and related bond insurance fails, or if credit ratings decline or other adverse developments occur in the credit markets, then we may not be able to monetize these securities in the foreseeable future. We may also be required to further adjust the carrying value of these instruments through an impairment charge that may be deemed other-than-temporary which would adversely affect our financial results.

OUR INABILITY TO ATTRACT AND RETAIN KEY PERSONNEL COULD CAUSE OUR BUSINESS TO SUFFER

If we fail to attract and retain the necessary managerial, technical and customer support personnel, our business and our ability to maintain existing and obtain new customers, develop new products and provide acceptable levels of customer service could suffer. We compete with other industry participants for qualified personnel, particularly those with significant experience in the semiconductor industry. The loss of services of key employees could harm our business and results of operations.

RISKS RELATING TO THE MARKET FOR OUR COMMON STOCK

THE MARKET PRICE MAY FLUCTUATE SIGNIFICANTLY AND RAPIDLY

The market price of our common stock has fluctuated and could continue to fluctuate significantly as a result of factors such as: economic and stock market conditions generally and specifically as they may impact participants in the semiconductor and related industries; changes in financial estimates and recommendations by securities analysts who follow our stock; earnings and other announcements by, and changes in market evaluations of, us or participants in the semiconductor and related industries; changes in business or regulatory conditions affecting us or participants in the semiconductor and related industries; announcements or implementation by us, our competitors, or our customers of technological innovations, new products or different business strategies; and trading volume of our common stock.

index

ANTI-TAKEOVER PROVISIONS UNDER OUR CERTIFICATE OF INCORPORATION AND BYLAWS MAY DISCOURAGE THIRD PARTIES FROM MAKING AN UNSOLICITED BID FOR OUR COMPANY

Our certificate of incorporation, our bylaws, and various provisions of the Delaware General Corporation Law may make it more difficult or expensive to effect a change in control of our Company. For instance, our amended and restated certificate of incorporation provides for the division of our Board of Directors into three classes as nearly equal in size as possible with staggered three-year terms. Until April 2010, we had a rights plan which expired according to the terms of the plan.

We have adopted change in control arrangements covering our executive officers and other key employees. These arrangements provide for a cash severance payment, continued medical benefits and other ancillary payments and benefits upon termination of service of a covered employee's employment following a change in control, which may make it more expensive to acquire our Company.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

index

ITEM 2. PROPERTIES

Our principal U.S. facilities that we own consist of:

- a global headquarters and research and development facility in Aurora, Illinois, comprising approximately 200,000 square feet;
- a commercial dispersion plant and distribution center in Aurora, Illinois, comprising approximately 175,000 square feet;
- a commercial polishing pad manufacturing plant and offices in Aurora, Illinois, comprising approximately 48,000 square feet;
- an additional 13.2 acres of vacant land in Aurora, Illinois; and
- a facility in Addison, Illinois, comprising approximately 15,000 square feet.

In addition, we lease a facility in Rochester, New York, comprising approximately 21,000 square feet.

Our principal foreign facilities that we or our subsidiaries own consist of:

- a commercial dispersion plant, automated warehouse, research and development facility and offices in Kaohsiung County, Taiwan, comprising approximately 170,000 square feet;
- a commercial dispersion plant and distribution center in Geino, Japan, comprising approximately 113,000 square feet;
- a development and technical support facility in Geino, Japan, comprising approximately 20,000 square feet.

Our principal foreign facilities that we lease consist of:

- an office, research and development laboratory and polishing pad manufacturing plant in Hsin-Chu, Taiwan, comprising approximately 31,000 square feet;
- a commercial manufacturing plant, research and development facility and business office in Singapore, comprising approximately 24,000 square feet.

We believe that our facilities are suitable and adequate for their intended purpose and provide us with sufficient capacity and capacity expansion opportunities and technological capability to meet our current and expected demand in the foreseeable future. In fiscal 2011, we plan to increase our manufacturing capacity and add new capabilities in the Asia Pacific region. For example, we recently announced we have entered into a non-binding memorandum of understanding (MOU) with the Gyeonggi Province of South Korea to potentially establish manufacturing and research and development capabilities there. The MOU reflects a potential aggregate investment of approximately $10 million in Gyeonggi Province. In addition, we plan to expand our Geino, Japan dispersions plant to increase our manufacturing production capacity there.

index

ITEM 3. LEGAL PROCEEDINGS

While we are not involved in any legal proceedings that we believe will have a material impact on our consolidated financial position, results of operations or cash flows, we periodically become a party to legal proceedings in the ordinary course of business. For example, in January 2007, we filed a legal action against DuPont Air Products NanoMaterials LLC (DA Nano), a CMP slurry competitor, in the United States District Court for the District of Arizona, charging that DA Nano's manufacturing and marketing of CMP slurries infringe certain CMP slurry patents that we own. The affected DA Nano products include certain products used for tungsten CMP. We filed our infringement complaint as a counterclaim in response to an action filed by DA Nano in the same court in December 2006 that sought declaratory relief and alleged non-infringement, invalidity and unenforceability regarding some of the patents at issue in our complaint against DA Nano. DA Nano filed its complaint following our refusal of its request that we license to it our patents raised in its complaint. DA Nano's complaint did not allege any infringement by our products of intellectual property owned by DA Nano. From June 14 through July 8, 2010, a jury trial for the case was held. All of Cabot Microelectronics' patents at issue in the case were found valid. However, the jury found that DA Nano's products at issue do not infringe the asserted claims of these patents. In November 2010, we filed a Notice of Appeal regarding infringement, and DA Nano filed a cross-appeal. While the outcome of this and any legal matter cannot be predicted with certainty, we continue to believe that our claims and defenses in the pending action are meritorious, and we intend to continue to pursue and defend them.

index

EXECUTIVE OFFICERS OF THE REGISTRANT

Set forth below is information concerning our executive officers and their ages as of October 31, 2010.

NAME	AGE	POSITION
William P. Noglows	52	Chairman of the Board, President and Chief Executive Officer
H. Carol Bernstein	50	Vice President, Secretary and General Counsel
Yumiko Damashek	54	Vice President, Japan and Operations in Asia
William S. Johnson	53	Vice President and Chief Financial Officer
David H. Li	37	Vice President, Asia Pacific Region
Daniel J. Pike	47	Vice President, Corporate Development
Stephen R. Smith	51	Vice President, Marketing
Clifford L. Spiro	56	Vice President, Research and Development
Adam F. Weisman	48	Vice President, Business Operations
Daniel S. Wobby	47	Vice President, Global Sales
Thomas S. Roman	49	Principal Accounting Officer and Corporate Controller

WILLIAM P. NOGLOWS has served as our Chairman, President and Chief Executive Officer since November 2003. Mr. Noglows had previously served as a director of our Company from January 2000 until April 2002. Prior to joining us, Mr. Noglows served as an Executive Vice President of Cabot Corporation from 1998 to June 2003. Prior to that, Mr. Noglows held various management positions at Cabot Corporation including General Manager of Cabot Corporation's Cab-O-Sil Division, where he was one of the primary founders of our Company when our business was a division of Cabot Corporation, and was responsible for identifying and encouraging the development of the CMP application. Mr. Noglows received his B.S. in Chemical Engineering from the Georgia Institute of Technology. Mr. Noglows is also a director of Littelfuse, Inc.

H. CAROL BERNSTEIN has served as our Vice President, Secretary and General Counsel since August 2000. From January 1998 until joining us, Ms. Bernstein served as the General Counsel and Director of Industrial Technology Development of Argonne National Laboratory, which is operated by the University of Chicago for the United States Department of Energy. From May 1985 until December 1997, she served in various positions with the IBM Corporation, culminating in serving as an Associate General Counsel, and was the Vice President, Secretary and General Counsel of Advantis Corporation, an IBM joint venture. Ms. Bernstein received her B.A. from Colgate University and her J.D. from Northwestern University; she is a member of the Bar of the States of Illinois and New York.

YUMIKO DAMASHEK has served as our Vice President, Japan and Operations in Asia since June 2008. Previously, Ms. Damashek served as Managing Director of Japan since November 2005. Prior to joining us, Ms. Damashek served as President for Celerity Japan, Inc. Prior to that, she held various leadership positions at Global Partnership Creation, Inc. and Millipore Corporation. Ms. Damashek received her B.A. from the University of Arizona and her M.B.A. from San Diego State University.

WILLIAM S. JOHNSON has served as our Vice President and Chief Financial Officer since April 2003. Prior to joining us, Mr. Johnson served as Executive Vice President and Chief Financial Officer for Budget Group, Inc. from

August 2000 to March 2003. Before that, Mr. Johnson spent 16 years at BP Amoco in various senior finance and management positions, the most recent of which was President of Amoco Fabrics and Fibers Company. Mr. Johnson received his B.S. in Mechanical Engineering from the University of Oklahoma and his M.B.A. from the Harvard Business School.

DAVID H. LI has served as our Vice President, Asia Pacific Region since June 2008. Prior to that, Mr. Li served as Managing Director of Korea and China since February 2007. Previously, Mr. Li served as our Global Business Director for Tungsten and Advanced Dielectrics from 2005 to February 2007. Mr. Li held a variety of leadership positions for us in operations, sourcing and investor relations between 1998 and 2005. Prior to joining us, Mr. Li worked for UOP in marketing and process engineering. Mr. Li received a B.S. in Chemical Engineering from Purdue University and an M.B.A. from Northwestern University - Kellogg School of Management.

index

DANIEL J. PIKE has served as our Vice President of Corporate Development since January 2004 and prior to that was our Vice President of Operations from December 1999. Mr. Pike served as Director of Global Operations for a division of Cabot Corporation from 1996 to 1999. Prior to that, Mr. Pike worked for FMC Corporation in various marketing and finance positions. Mr. Pike received his B.S. in Chemical Engineering from the University of Buffalo and his M.B.A. from the Wharton School of Business of the University of Pennsylvania.

STEPHEN R. SMITH has served as our Vice President of Marketing since September 2006, and previously was our Vice President of Marketing and Business Management since April 2005 and our Vice President of Sales and Marketing from October 2001. Prior to joining us, Mr. Smith served as Vice President, Sales & Business Development for Buildpoint Corporation from 2000 to October 2001. Prior to that, Mr. Smith spent 17 years at Tyco Electronics Group, formerly known as AMP Incorporated, in various management positions. Mr. Smith earned a B.S. in Industrial Engineering from Grove City College and an M.B.A. from Wake Forest University.

CLIFFORD L. SPIRO has served as Vice President of Research and Development since December 2003. Prior to joining us, Dr. Spiro served as Vice President of Research and Development at Ondeo-Nalco from 2001 through November 2003. Prior to that, Dr. Spiro held research and development management and senior technology positions at the General Electric Company from 1980 through 2001, the most recent of which was Global Manager – Technology for Business Development. Dr. Spiro received his B.S. in Chemistry from Stanford University and his Ph.D. in Chemistry from the California Institute of Technology.

ADAM F. WEISMAN has served as our Vice President of Business Operations since September 2006, and prior to that was our Vice President of Operations. Before joining us, Mr. Weisman held various engineering and senior operations management positions with the General Electric Company from 1988 through 2004, including having served as the General Manager of Manufacturing for GE Plastics - Superabrasives, and culminating in serving as the Executive Vice President of Operations for GE Railcar Services. Prior to joining GE, he worked as an engineering team leader and pilot plant manager for E.I. Du Pont de Nemours & Company. Mr. Weisman holds a B.S. in Ceramic Engineering from Alfred University.

DANIEL S. WOBBY has served as our Vice President of Global Sales since June 2008. Prior to that, Mr. Wobby served as Vice President, Asia Pacific Region since September 2005. Previously, Mr. Wobby served as Vice President, Greater China and Southeast Asia starting in February 2004 and as Corporate Controller and Principal Accounting Officer from 2000 to 2004. From 1989 to 2000, Mr. Wobby held various accounting and operations positions with Cabot Corporation culminating in serving as Director of Finance. Mr. Wobby earned a B.S. in Accounting from St. Michael’s College and an M.B.A. from the University of Chicago.

THOMAS S. ROMAN has served as our Corporate Controller and Principal Accounting Officer since February 2004 and previously served as our North American Controller. Prior to joining us in April 2000, Mr. Roman was employed by FMC Corporation in various financial reporting, tax and audit positions. Before that, Mr. Roman worked for Gould Electronics and Arthur Andersen LLP. Mr. Roman is a C.P.A. and earned a B.S. in Accounting from the University of Illinois and an M.B.A. from DePaul University’s Kellstadt Graduate School of Business.

index

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock has traded publicly under the symbol "CCMP" since our initial public offering in April 2000, currently on the NASDAQ Global Select Market, and formerly the NASDAQ National Market. The following table sets forth the range of quarterly high and low closing sales prices for our common stock.

		HIGH	LOW
Fiscal 2009			
	First Quarter	32.39	20.23
	Second Quarter	26.96	19.01
	Third Quarter	31.50	24.52
	Fourth Quarter	36.04	26.94
Fiscal 2010			
	First Quarter	35.47	30.59
	Second Quarter	37.83	31.99
	Third Quarter	42.69	34.18
	Fourth Quarter	36.65	29.81
Fiscal 2011	First Quarter (through October 31, 2010)	38.63	32.22

As of October 31, 2010, there were approximately 988 holders of record of our common stock. No dividends were declared or paid in either fiscal 2010 or fiscal 2009 and we have no current plans to pay cash dividends in the future.

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in thousands)
Jul. 1 through Jul. 31, 2010	92,035	$33.50	92,035	$36,921
Aug. 1 through Aug. 31, 2010	367,599	$32.42	367,599	$25,005
Sep. 1 through Sep. 30, 2010	-	-	-	$25,005
Total	459,634	$32.63	459,634	$25,005

In January 2008, we announced that our Board of Directors had authorized a share repurchase program for up to $75.0 million of our outstanding common stock. Shares are repurchased from time to time, depending on market conditions, in open market transactions, at management’s discretion. We fund share repurchases from our existing cash balance. The program, which became effective on the authorization date, may be suspended or terminated at any time, at the Company’s discretion. During the fiscal year ended September 30, 2010, we repurchased a total of 723,184

shares for $25.0 million.

Separate from this share repurchase program, a total of 24,651 shares were purchased during fiscal 2010 pursuant to the terms of our Second Amended and Restated Cabot Microelectronics Corporation 2000 Equity Incentive Plan (EIP) as shares withheld from award recipients to cover payroll taxes on the vesting of shares of restricted stock granted under the EIP. No shares were purchased under the EIP during the fiscal quarter ended September 30, 2010.

EQUITY COMPENSATION PLAN INFORMATION

See Part II, Item 12 of this Form 10-K for information regarding shares of common stock that may be issued under the Company's existing equity compensation plans.

index

STOCK PERFORMANCE GRAPH

The following graph illustrates the cumulative total stockholder return on our common stock during the period from September 30, 2005 through September 30, 2010 and compares it with the cumulative total return on the NASDAQ Composite Index and the Philadelphia Semiconductor Index. The comparison assumes $100 was invested on September 30, 2005 in our common stock and in each of the foregoing indices and assumes reinvestment of dividends, if any. The performance shown is not necessarily indicative of future performance. See “Risk Factors” in Part I, Item 1A above.

	9/05	12/05	3/06	6/06	9/06	12/06	3/07	6/07	9/07	12/07	3/08
Cabot Microelectronics Corporation	100.00	99.69	126.28	103.17	98.09	115.52	114.06	120.80	145.51	122.23	109.43
NASDAQ Composite	100.00	102.19	108.39	101.64	106.39	114.79	115.26	124.53	127.37	125.28	107.34
Philadelphia Semiconductor	100.00	104.16	100.59	92.41	98.02	98.40	96.83	111.06	113.86	107.28	91.18

	6/08	9/08	12/08	3/09	6/09	9/09	12/09	3/10	6/10	9/10
Cabot Microelectronics Corporation	112.83	109.19	88.73	81.79	96.29	118.65	112.19	128.76	117.73	109.53
NASDAQ Composite	108.37	96.70	74.34	71.91	86.29	100.00	107.24	113.44	100.06	112.86
Philadelphia Semiconductor	94.16	77.69	58.49	63.36	71.73	87.52	95.48	97.73	88.04	91.53

index

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data for each year of the five-year period ended September 30, 2010, has been derived from the audited consolidated financial statements.

The information set forth below is not necessarily indicative of results of future operations and should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations and the consolidated financial statements and notes to those statements included in Items 7 and 8 of Part II of this Form 10-K, as well as Risk Factors included in Item 1A of Part I of this Form 10-K.

CABOT MICROELECTRONICS CORPORATION
SELECTED FINANCIAL DATA - FIVE YEAR SUMMARY
(Amounts in thousands, except per share amounts)

	Year Ended September 30,				
	2010	2009	2008	2007	2006
Consolidated Statement of Income Data:					
Revenue	$408,201	$291,372	$375,069	$338,205	$320,795
Cost of goods sold	204,704	162,918	200,596	178,224	171,758
Gross profit	203,497	128,454	174,473	159,981	149,037
Operating expenses:					
Research, development and technical	51,818	48,150	49,155	49,970	48,070
Selling and marketing	26,885	22,239	28,281	24,310	21,115
General and administrative	50,783	40,632	47,595	39,933	34,319
Purchased in-process research and development	-	1,410	-	-	1,120
Total operating expenses	129,486	112,431	125,031	114,213	104,624
Operating income	74,011	16,023	49,442	45,768	44,413
Other income (expense), net	(734)	599	5,448	3,606	4,111
Income before income taxes	73,277	16,622	54,890	49,374	48,524
Provision for income taxes	23,819	5,435	16,552	15,538	15,576
Net income	$49,458	$11,187	$38,338	$33,836	$32,948
Basic earnings per share	$2.14	$0.48	$1.64	$1.42	$1.36
Weighted average basic shares outstanding	23,084	23,079	23,315	23,748	24,228
Diluted earnings per share	$2.13	$0.48	$1.64	$1.42	$1.36
Weighted average diluted shares outstanding	23,273	23,096	23,348	23,754	24,228
Cash dividends per share	$-	$-	$-	$-	$-

	As of September 30,				
	2010	2009	2008	2007	2006
Consolidated Balance Sheet Data:					
Current assets	$381,029	$316,852	$330,592	$310,754	$261,505
Property, plant and equipment, net	115,811	122,782	115,843	118,454	130,176
Other assets	74,916	75,510	31,002	25,921	20,452
Total assets	$571,756	$515,144	$477,437	$455,129	$412,133
Current liabilities	$53,330	$39,536	$37,801	$36,563	$38,833
Other long-term liabilities	4,083	4,879	5,403	5,362	5,529
Total liabilities	57,413	44,415	43,204	41,925	44,362
Stockholders' equity	514,343	470,729	434,233	413,204	367,771
Total liabilities and stockholders' equity	$571,756	$515,144	$477,437	$455,129	$412,133

index

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following “Management's Discussion and Analysis of Financial Condition and Results of Operations", as well as disclosures included elsewhere in this Form 10-K, include "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. This Act provides a safe harbor for forward-looking statements to encourage companies to provide prospective information about themselves so long as they identify these statements as forward-looking and provide meaningful cautionary statements identifying important factors that could cause actual results to differ from the projected results. All statements other than statements of historical fact we make in this Form 10-K are forward-looking. In particular, the statements herein regarding future sales and operating results; Company and industry growth, contraction or trends; growth or contraction of the markets in which the Company participates; international events or various economic factors; product performance; the generation, protection and acquisition of intellectual property, and litigation related to such intellectual property; new product introductions; development of new products, technologies and markets; the acquisition of or investment in other entities; uses and investment of the Company’s cash balance; the construction of facilities by the Company; and statements preceded by, followed by or that include the words "intends", "estimates", "plans", "believes", "expects", "anticipates", "should", "could" or similar expressions, are forward-looking statements. Forward-looking statements reflect our current expectations and are inherently uncertain. Our actual results may differ significantly from our expectations. We assume no obligation to update this forward-looking information. The section entitled "Risk Factors" describes some, but not all, of the factors that could cause these differences.

The following discussion and analysis should be read in conjunction with our historical financial statements and the notes to those financial statements which are included in Item 8 of Part II of this Form 10-K.

OVERVIEW

Cabot Microelectronics Corporation ("Cabot Microelectronics", "the Company", "us", "we", or "our") is the leading supplier of high-performance polishing slurries and a growing pad supplier used in the manufacture of advanced integrated circuit (IC) devices within the semiconductor industry, in a process called chemical mechanical planarization (CMP). CMP is a polishing process used by IC device manufacturers to planarize or flatten many of the multiple layers of material that are deposited upon silicon wafers in the production of advanced ICs. Our products play a critical role in the production of advanced IC devices, thereby enabling our customers to produce smaller, faster and more complex IC devices with fewer defects. Demand for our CMP products is primarily driven by the number of wafers processed by semiconductor manufacturers, the first manufacturing step of which is referred to as a “wafer start”.

We operate predominantly in one industry segment – the development, manufacture and sale of CMP consumables. We develop, produce and sell CMP slurries for polishing many of the conducting and insulating materials used in IC devices, and also for polishing certain components in hard disk drives, specifically rigid disk substrates and magnetic heads. In addition, we develop, manufacture and sell CMP polishing pads, which are used in conjunction with slurries in the CMP process. We also pursue a number of other demanding surface modification applications outside of the semiconductor and hard disk drive industries through our Engineered Surface Finishes (ESF) business, for which we believe our capabilities and knowledge may provide value in improved surface performance or productivity.

The improvement in economic and industry conditions that we began to see in our business during the second half of fiscal 2009, following the severe global recession, continued through our fiscal 2010 and positively impacted demand for our products. We continue to see positive signs of growth in the semiconductor industry: reports from customer indicate utilization of fab capacity is currently at an all-time high; inventory levels of IC devices appear to be within an appropriate range; and significant capacity expansion activity by a number of semiconductor device manufacturers is underway. However, we remain cautious regarding future demand trends over the near term as the first quarter of the calendar year typically demonstrates softer demand due to seasonal variations within the semiconductor industry. There are many factors, that make it difficult for us to predict future revenue trends for our business, including: the pace, timing and sustainability of the ongoing economic recovery; the cyclical nature of the semiconductor industry; the short order to delivery time for our products and the associated lack of visibility to future customer orders; quarter to quarter changes in our revenue regardless of industry strength; and potential future acquisitions by us.

index

Revenue for fiscal 2010 was $408.2 million, which represented an increase of 40.1% from the $291.4 million reported for fiscal 2009. The increase in revenue from fiscal 2009 reflects increased sales volume due to improved economic and semiconductor industry conditions. We experienced significant revenue growth across all of our product lines, including a 68.9% increase in revenue from our polishing pad products and a 53.9% increase in revenue from copper slurries, which benefited from a full year impact in fiscal 2010 of our February 2009 acquisition of Epoch Material Co., Ltd. (Epoch) versus only a partial year benefit in the prior fiscal year.

Gross profit expressed as a percentage of revenue for fiscal 2010 was 49.9%, which represents an increase from the 44.1% reported for fiscal 2009. The increase in gross profit percentage from fiscal 2009 was primarily due to the significant increase in sales volume due to continued improvement in economic and industry conditions, and the related benefits of increased utilization of our manufacturing capacity, partially offset by higher fixed manufacturing costs and unfavorable foreign exchange effects. We expect our gross profit percentage for full year fiscal 2011 to be in the range of 48% to 50%. However, we may experience fluctuations in our gross profit due to a number of factors, including the extent to which we utilize our manufacturing capacity and fluctuations in our product mix, which may cause our quarterly gross profit to be above or below this range.

Operating expenses of $129.5 million, which include research, development and technical, selling and marketing, and general and administrative expenses, increased 15.2%, or $17.1 million, from the $112.4 million reported for fiscal 2009. The increase was primarily due to higher staffing-related costs, including costs associated with our annual incentive bonus program, and the reinstatement of certain employee benefits that were suspended during the economic downturn in fiscal 2009, higher professional fees, including costs to enforce our intellectual property as discussed in the following paragraph, higher travel-related expenses, and a full year of Epoch operating expenses included in fiscal 2010 versus only a partial year in fiscal 2009. In fiscal 2011, we expect our full year operating expenses to be in the range of $125 million to $130 million.

In July 2010, a jury trial was completed in connection with our ongoing patent enforcement litigation against DuPont Air Products NanoMaterials LLC (DA Nano). We were pleased that the validity of our patents at issue was upheld with the jury's verdict; however, we were disappointed that the jury did not find DA Nano's products at issue infringed the asserted claims of our patents. In November 2010, we filed a Notice of Appeal regarding infringement, and DA Nano filed a cross-appeal. Expenses related to this trial caused our operating expenses to increase in fiscal 2010. Now that the jury trial phase has been completed, we expect our litigation costs related to this matter to decrease significantly in fiscal 2011, as they did in the fourth quarter of fiscal 2010. See Part I, Item 3 entitled "Legal Proceedings" and Note 17 of the Notes to the Consolidated Financial Statements for more information on the enforcement of our intellectual property.

Diluted earnings per share of $2.13 in fiscal 2010 increased 343.8%, or $1.65, from $0.48 reported in fiscal 2009 as a result of the factors discussed above. Diluted earnings per share were positively impacted by our election in fiscal 2010 to permanently reinvest the earnings of certain of our foreign subsidiaries outside the U.S. rather than repatriating the earnings to the U.S. This election, which was made in the fourth quarter of fiscal 2010, reduced our effective income tax rate for the year from 35.2% to 32.5% and increased diluted earnings per share by $0.09. In fiscal 2011, we expect our full year effective income tax rate to be in the range of 31% to 33%. See Note 16 of the Notes to the Consolidated Financial Statements for further discussion on income taxes.

index

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

This "Management's Discussion and Analysis of Financial Condition and Results of Operations" (MD&A), as well as disclosures included elsewhere in this Form 10-K, are based upon our audited consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingencies. On an ongoing basis, we evaluate the estimates used, including those related to bad debt expense, warranty obligations, inventory valuation, valuation and classification of auction rate securities, impairment of long-lived assets and investments, business combinations, goodwill, other intangible assets, share-based compensation, income taxes and contingencies. We base our estimates on historical experience, current conditions and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources, as well as for identifying and assessing our accounting treatment with respect to commitments and contingencies. Actual results may differ from these estimates under different assumptions or conditions. We believe the following critical accounting policies involve significant judgments and estimates used in the preparation of our consolidated financial statements.

ALLOWANCE FOR DOUBTFUL ACCOUNTS

We maintain an allowance for doubtful accounts for estimated losses resulting from the potential inability of our customers to make required payments. Our allowance for doubtful accounts is based on historical collection experience, adjusted for any specific known conditions or circumstances. While historical experience may provide a reasonable estimate of uncollectible accounts, actual results may differ from what was recorded. The global economic recession adversely affected our ability to collect accounts receivable from some of our customers in fiscal 2009. The recession also caused a small number of our customers to file for bankruptcy or insolvency. We recorded a $0.9 million increase in our allowance for doubtful accounts during fiscal 2009 to account for these bankruptcies and the increased risk regarding customer collections due to the continued uncertainty in the global economy. We will continue to monitor the financial solvency of our customers and, if global economic conditions worsen, we may have to record additional increases to our allowances for doubtful accounts. As of September 30, 2010, our allowance for doubtful accounts represented 1.9% of gross accounts receivable. If we had increased our estimate of bad debts to 2.9% of gross accounts receivable, our general and administrative expenses would have increased by $0.6 million.

WARRANTY RESERVE

We maintain a warranty reserve that reflects management’s best estimate of the cost to replace product that does not meet customers’ specifications and performance requirements, and costs related to such replacement. The warranty reserve is based upon a historical product replacement rate, adjusted for any specific known conditions or circumstances. Should actual warranty costs differ substantially from our estimates, revisions to the estimated warranty liability may be required. As of September 30, 2010, our warranty reserve represented 0.3% of the current quarter revenue. If we had increased our warranty reserve estimate to 1.3% of the current quarter revenue, our cost of goods sold would have increased by $1.1 million.

INVENTORY VALUATION

We value inventory at the lower of cost or market and write down the value of inventory for estimated obsolescence or if inventory is deemed unmarketable. An inventory reserve is maintained based upon a historical percentage of actual inventories written off applied against the inventory value at the end of the period, adjusted for known conditions and circumstances. We exercise judgment in estimating the amount of inventory that is obsolete. Should actual product

marketability and fitness for use be affected by conditions that are different from those projected by management, revisions to the estimated inventory reserve may be required. If we had increased our reserve for obsolete inventory at September 30, 2010 by 10%, our cost of goods sold would have increased by $0.2 million.

index

VALUATION AND CLASSIFICATION OF AUCTION RATE SECURITIES

As of September 30, 2010, we owned two auction rate securities (ARS) with an estimated fair value of $8.1 million ($8.3 million par value) which are classified as other long-term assets on our Consolidated Balance Sheet. In general, ARS investments are securities with long-term nominal maturities for which interest rates are reset through a Dutch auction every seven to 35 days. Historically, these periodic auctions provided a liquid market for these securities. General uncertainties in the global credit markets during 2008 caused widespread ARS auction failures as the number of securities submitted for sale exceeded the number of securities buyers were willing to purchase, and these auction failures have continued. As a result, the short-term liquidity of the ARS market has been adversely affected since then.

As discussed in Notes 4 and 8 of the Notes to the Consolidated Financial Statements, we have recorded a temporary impairment of $0.2 million, net of tax, in the value of one of our ARS in other comprehensive income. The calculation of fair value and the balance sheet classification for our ARS requires critical judgments and estimates by management including an appropriate discount rate and the probabilities that a security may be monetized through a future successful auction, of a refinancing of the underlying debt, of a default in payment by the issuer, and of payments not being made by the bond insurance carrier in the event of default by the issuer. In fiscal 2009, we adopted new accounting pronouncements regarding the classification and valuation of financial instruments. These pronouncements discuss the recognition and presentation of other-than-temporary impairments and the determination of fair value of financial instruments when the volume of trading activity significantly drops. An other-than-temporary impairment must be recorded when a credit loss exists; that is when the present value of the expected cash flows from a debt security is less than the amortized cost basis of the security. We performed two discounted cash flow analyses, one using a discount rate based on a market index comprised of tax exempt variable rate demand obligations and one using a discount rate based on the LIBOR swap curve, and we applied a risk factor to reflect current liquidity issues in the ARS market. We then assigned probabilities of holding each security for less than or equal to one year, five years, and to maturity to calculate a fair value for each security. We also considered the probability of default in payment by the issuer of the securities, the strength of the insurance backing and the probability of failure by the insurance carrier in the case of default by the issuer of the securities. The impairment we have maintained is considered temporary as it relates to the loss of liquidity in the ARS market and does not represent a credit loss. We do not intend to sell the securities at a loss and we believe we will not be required to sell the securities at a loss in the future. If auctions involving our remaining ARS continue to fail, if issuers of our ARS are unable to refinance the underlying securities, if the issuing municipalities are unable to pay their debt obligations and the bond insurance fails, or if credit ratings decline or other adverse developments occur in the credit markets, we may not be able to monetize our remaining securities in the near term and may be required to further adjust the carrying value of these instruments through an impairment charge that may be deemed other-than-temporary.

IMPAIRMENT OF LONG-LIVED ASSETS AND INVESTMENTS

We assess the recoverability of the carrying value of long-lived assets, including finite lived intangible assets, whenever events or changes in circumstances indicate that the assets may be impaired. We must exercise judgment in assessing whether an event of impairment has occurred. For purposes of recognition and measurement of an impairment loss, long-lived assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. We must exercise judgment in this grouping. If the sum of the undiscounted future cash flows expected to result from the identified asset group is less than the carrying value of the asset group, an impairment provision may be required. The amount of the impairment to be recognized is calculated by subtracting the fair value of the asset group from the net book value of the asset group. Determining future cash flows and estimating fair values require significant judgment and are highly susceptible to change from period to period because they require management to make assumptions about

future sales and cost of sales generally over a long-term period. As a result of assessments performed during fiscal 2010, we recorded $0.2 million in impairment expense. In fiscal 2009, we recorded $1.2 million in impairment expense, primarily related to the write-off of certain research and development equipment. See Note 6 of the Notes to the Consolidated Financial Statements for more information on this write-off.

We evaluate the estimated fair value of investments annually or more frequently if indicators of potential impairment exist, to determine if an other-than-temporary impairment in the value of the investment has taken place.

index

BUSINESS COMBINATIONS

We have accounted for all business combinations under the purchase method of accounting. As discussed in more detail in Note 2 of the Notes to the Consolidated Financial Statements, we were required to adopt new accounting standards for business combinations commencing after October 1, 2009. However, we have not made any acquisitions to which we were required to apply these new standards. We have allocated the purchase price of acquired entities to the tangible and intangible assets acquired, liabilities assumed, and in-process research and development (IPR&D) based on their estimated fair values. We engage independent third-party appraisal firms to assist us in determining the fair values of assets and liabilities acquired. This valuation requires management to make significant estimates and assumptions, especially with respect to long-lived and intangible assets. Contingent consideration was recorded as a liability when the outcome of the contingency became determinable. Goodwill represents the excess of the purchase price over the fair value of net assets and amounts assigned to identifiable intangible assets. Purchased IPR&D, for which technological feasibility has not yet been established and no future alternative uses exist, has been expensed immediately.

Critical estimates in valuing certain of the intangible assets include but are not limited to: future expected cash flows related to acquired developed technologies and patents and assumptions about the period of time the technologies will continue to be used in the Company's product portfolio; expected costs to develop the IPR&D into commercially viable products and estimated cash flows from the products when completed; and discount rates. Management's estimates of value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. Assumptions may be incomplete or inaccurate, and unanticipated events and circumstances may occur which may cause actual realized values to be different from management's estimates.

GOODWILL AND INTANGIBLE ASSETS

Purchased intangible assets with finite lives are amortized over their estimated useful lives and are evaluated for impairment using a process similar to that used to evaluate other long-lived assets. Goodwill and indefinite lived intangible assets are not amortized and are tested annually in the fourth fiscal quarter or more frequently if indicators of potential impairment exist, using a fair-value-based approach.

The recoverability of goodwill is measured at the reporting unit level, which is defined as either an operating segment or one level below an operating segment. A component is a reporting unit when the component constitutes a business for which discreet financial information is available and segment management regularly reviews the operating results of the component. Components may be combined into one reporting unit when they have similar economic characteristics. We had three reporting units to which we allocated goodwill and intangible assets as of September 30, 2010, the date of our annual impairment test. Initially, our Company had only one reporting unit as we were created from a division of our former parent company, Cabot Corporation, and we identified associated goodwill and intangible assets under one reporting unit at that time. Other amounts of goodwill and intangible assets have been attributed to acquired businesses at the time of acquisition through the use of independent appraisal firms.

We have consistently determined the fair value of our reporting units using a discounted cash flow analysis of our projected future results. The recoverability of indefinite lived intangible assets is measured using the royalty savings method. Factors requiring significant judgment include assumptions related to future growth rates, discount factors, royalty rates and tax rates, among others. Changes in economic and operating conditions that occur after the annual impairment analysis or an interim impairment analysis that impact these assumptions may result in future impairment charges.

As a result of the review performed in the fourth quarter of fiscal 2010, we determined that there was no impairment of our goodwill and intangible assets as of September 30, 2010.

index

SHARE-BASED COMPENSATION

We record share-based compensation expense for all share-based awards, including stock option grants, restricted stock and restricted stock unit awards and employee stock purchases. We calculate share-based compensation expense using the straight-line approach based on awards expected to ultimately vest, which requires the use of an estimated forfeiture rate. Our estimated forfeiture rate is primarily based on historical experience, but may be revised in future periods if actual forfeitures differ from the estimate. We use the Black-Scholes option-pricing model to estimate the grant date fair value of our stock options and employee stock purchases. This model requires the input of highly subjective assumptions, including the price volatility of the underlying stock, the expected term of our stock options and the risk-free interest rate. A small change in the underlying assumptions can have a relatively large effect on the estimated valuation. We estimate the expected volatility of our stock based on a combination of our stock's historical volatility and the implied volatilities from actively-traded options on our stock. We calculate the expected term of our stock options using the simplified method, due to our limited amount of historical option exercise data, and we add a slight premium to this expected term for employees who meet the definition of retirement eligible pursuant to terms of their award agreements during the contractual term. The simplified method uses an average of the vesting term and the contractual term of the option to calculate the expected term. The risk-free rate is derived from the U.S. Treasury yield curve in effect at the time of grant.

The fair value of our restricted stock and restricted stock unit awards represents the closing price of our common stock on the date of grant.

ACCOUNTING FOR INCOME TAXES

Current income taxes are determined based on estimated taxes payable or refundable on tax returns for the current year. Deferred income taxes are determined using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Provisions are made for both U.S. and any foreign deferred income tax liability or benefit. We recognize the tax benefit of an uncertain tax position only if it is more likely than not that the tax position will be sustained by the taxing authorities, based on the technical merits of the position. In fiscal 2010, we elected to permanently reinvest the earnings of certain of our foreign subsidiaries outside the U.S. rather than repatriating the earnings to the U.S. See Note 16 for additional information on income taxes.

COMMITMENTS AND CONTINGENCIES

We have entered into certain unconditional purchase obligations, which include noncancelable purchase commitments and take-or-pay arrangements with suppliers. We review our agreements on a quarterly basis and make an assessment of the likelihood of a shortfall in purchases and determine if it is necessary to record a liability. In addition, we are subject to the possibility of various loss contingencies arising in the ordinary course of business such as a legal proceeding or claim. An estimated loss contingency is accrued when it is probable that an asset has been impaired or a liability has been incurred and the amount of the loss can be reasonably estimated. We regularly evaluate current information available to us to determine whether such accruals should be adjusted and whether new accruals are required.

EFFECTS OF RECENT ACCOUNTING PRONOUNCEMENTS

See Note 2 to the Consolidated Financial Statements for a description of recent accounting pronouncements including the expected dates of adoption and effects on our results of operations, financial position and cash flows.

index

RESULTS OF OPERATIONS

The following table sets forth, for the periods indicated, the percentage of revenue of certain line items included in our historical statements of income:

	Year Ended September 30,		
	2010	2009	2008
Revenue	100.0%	100.0%	100.0%
Cost of goods sold	50.1	55.9	53.5
Gross profit	49.9	44.1	46.5
Research, development and technical	12.7	16.5	13.1
Selling and marketing	6.6	7.6	7.5
General and administrative	12.5	14.0	12.7
Purchased in-process research and development	-	0.5	-
Operating income	18.1	5.5	13.2
Other income (expense), net	(0.2)	0.2	1.4
Income before income taxes	17.9	5.7	14.6
Provision for income taxes	5.8	1.9	4.4