

AMKOR TECHNOLOGY INC

Form 10-K

February 24, 2010

**Table of Contents**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**Form 10-K  
ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)  
OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the Fiscal Year Ended December 31, 2009**

**Commission File Number 000-29472**

**Amkor Technology, Inc.**

*(Exact name of registrant as specified in its charter)*

**Delaware**

*(State of incorporation)*

**23-1722724**

*(I.R.S. Employer*

*Identification Number)*

**1900 South Price Road**

**Chandler, AZ 85286**

**(480) 821-5000**

*(Address of principal executive offices and zip code)*

**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 Global Select Market

**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  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

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  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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Edgar Filing: AMKOR TECHNOLOGY INC - Form 10-K

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.

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 the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer       Accelerated filer       Non-accelerated filer       Smaller reporting company   
(Do not check if a smaller reporting company)

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2009, based upon the closing price of the common stock as reported by the NASDAQ Global Select Market on that date, was approximately \$511.2 million.

The number of shares outstanding of each of the issuer's classes of common equity, as of January 29, 2010, was as follows: 183,230,953 shares of Common Stock, \$0.001 par value.

**DOCUMENTS INCORPORATED BY REFERENCE:**

Portions of the registrant's Proxy Statement relating to its 2010 Annual Meeting of Stockholders, to be filed subsequently, are incorporated by reference into Part III of this Report where indicated.

---

## TABLE OF CONTENTS

**Page**

### PART I

<u>Item 1.</u>	<u>Business</u>	3
<u>Item 1A.</u>	<u>Risk Factors</u>	15
<u>Item 1B.</u>	<u>Unresolved Staff Comments</u>	27
<u>Item 2.</u>	<u>Properties</u>	28
<u>Item 3.</u>	<u>Legal Proceedings</u>	28
<u>Item 4.</u>	<u>Submission of Matters to a Vote of Security Holders</u>	28

### PART II

<u>Item 5.</u>	<u>Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	29
<u>Item 6.</u>	<u>Selected Consolidated Financial Data</u>	31
<u>Item 7.</u>	<u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	33
<u>Item 7A.</u>	<u>Quantitative and Qualitative Disclosures About Market Risk</u>	46
<u>Item 8.</u>	<u>Financial Statements and Supplementary Data</u>	48
<u>Item 9.</u>	<u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	94
<u>Item 9A.</u>	<u>Controls and Procedures</u>	94
<u>Item 9B.</u>	<u>Other Information</u>	95

### PART III

<u>Item 10.</u>	<u>Directors, Executive Officers and Corporate Governance</u>	95
<u>Item 11.</u>	<u>Executive Compensation</u>	95
<u>Item 12.</u>	<u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	95
<u>Item 13.</u>	<u>Certain Relationships and Related Transactions and Director Independence</u>	96
<u>Item 14.</u>	<u>Principal Accountant Fees and Services</u>	96

### PART IV

<u>Item 15.</u>	<u>Exhibits and Financial Statement Schedules</u>	96
<u>EX-12.1</u>		
<u>EX-21.1</u>		
<u>EX-23.1</u>		
<u>EX-31.1</u>		
<u>EX-31.2</u>		
<u>EX-32</u>		

All references in this Annual Report to Amkor, we, us, our or the company are to Amkor Technology, Inc. and its subsidiaries. We refer to the Republic of Korea, which is also commonly known as South Korea, as Korea. Amkor, Amkor Technology®, ChipArray®, FlipStack™, FusionQuad®, MicroLeadFrame®, TMV™, and Unitive® are either trademarks or registered trademarks of Amkor Technology, Inc. All other trademarks appearing herein are held by their respective owners. Subsequent use of the above trademarks in this report may occur without the respective superscript symbols (TM or ®) in order to facilitate the readability of the report and are not a waiver of any rights that

may be associated with the relevant trademarks.

**Table of Contents**

**PART I**

**Item 1. *Business***

**DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS**

This business section contains forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as may, will, should, expects, plans, anticipates, believes, estimates, potential, continue, intend or the negative of these terms or other comparable terminology. Because such statements include risks and uncertainties, actual results may differ materially from those anticipated in such forward-looking statements. In evaluating these statements, you should specifically consider various factors, including the risks outlined under Risk Factors in Item 1A of this Annual Report. These factors may cause our actual results to differ materially from any forward-looking statement.

**OVERVIEW**

Amkor is one of the world's leading subcontractors of semiconductor packaging (sometimes referred to as assembly) and test services. Amkor pioneered the outsourcing of semiconductor packaging and test services through a predecessor corporation in 1968 and over the years we have built a leading position by:

Designing and developing new package and test technologies;

Offering a broad portfolio of packaging and test technologies and services;

Cultivating long-standing relationships with our customers, which include many of the world's leading semiconductor companies and collaborating with original equipment manufactures ( OEMs );

Developing expertise in high-volume manufacturing processes; and

Having a diversified operational scope, with production capabilities in China, Japan, Korea, the Philippines, Singapore, Taiwan and the United States ( U.S. ).

Packaging and test are integral steps in the process of manufacturing semiconductor devices. The manufacturing process begins with silicon wafers and involves the fabrication of electronic circuitry into complex patterns, thus creating large numbers of individual chips on the wafers. The fabricated wafers are then probe tested to ensure the individual devices meet electrical specifications. The packaging process creates an electrical interconnect between the semiconductor chip and the system board. In packaging, fabricated semiconductor wafers are separated into individual chips. These chips are typically attached through wire bond or wafer bump technologies to a substrate or leadframe and then encased in a protective material. In the case of an advanced wafer level package, the package is assembled on the surface of a wafer.

Our packages are designed for application specific body size and electrical connection requirements to provide optimal electrical connectivity and thermal performance. The packaged chips are then tested using sophisticated equipment to ensure that each packaged chip meets its design and performance specifications. Increasingly, packages are custom designed for specific chips and specific end-market applications. We are able to provide turnkey packaging and test solutions including semiconductor wafer bump, wafer probe, wafer backgrind, package design, assembly, test and drop shipment services.

Our customers include, among others: Altera Corporation; Atmel Corporation; Broadcom Corporation; Infineon Technologies AG; International Business Machines Corporation ( IBM ); LSI Corporation; Qualcomm Incorporated; ST Microelectronics, Pte.; Texas Instruments, Inc. and Toshiba Corporation. The outsourced semiconductor packaging and test market is very competitive. We also compete with the internal semiconductor packaging and test capabilities of many of our customers.

**AVAILABLE INFORMATION**

Amkor files annual, quarterly and current reports, proxy statements and other information with the U.S. Securities and Exchange Commission (the SEC ). You may read and copy any document we file at the SEC s Public Reference Room, 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for

## **Table of Contents**

information on the Public Reference Room. The SEC maintains a web site that contains annual, quarterly and current reports, proxy statements and other information that issuers (including Amkor) file electronically with the SEC. The SEC's web site is <http://www.sec.gov>.

Amkor's web site is <http://www.amkor.com>. Amkor makes available free of charge through its web site, our annual reports on Form 10-K; quarterly reports on Form 10-Q; current reports on Form 8-K; Forms 3, 4 and 5 filed on behalf of directors and executive officers; and any amendments to those reports filed or furnished pursuant to the Securities Exchange Act of 1934 as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. We also make available, free of charge, through our web site, our Corporate Governance Guidelines, the charters of the Audit Committee, Nominating and Governance Committee and Compensation Committee of our Board of Directors, our Code of Business Conduct and Ethical Guidelines, our Code of Ethics for Directors and other information and materials. The information on Amkor's web site is not incorporated by reference into this report.

## **INDUSTRY BACKGROUND**

Semiconductor devices are the essential building blocks used in most electronic products. As semiconductor devices have evolved, there have been several important consequences, including: (1) an increase in demand for mobile phones, consumer electronics, computers and networking equipment; (2) the proliferation of semiconductor devices into diverse end products such as automotive systems; and (3) an increase in the semiconductor content within electronic products in order to provide greater functionality and higher levels of performance. These consequences have fueled the growth of the overall semiconductor industry, as well as the market for outsourced semiconductor packaging and test services.

Historical trends indicate that semiconductor industry demand appears to be increasingly driven by global consumer spending. There has been a strong correlation between world-wide gross domestic product and semiconductor industry cycles. The recent financial crisis and global recession resulted in a downturn in the semiconductor industry. Reduced economic activity and decreased consumer spending during the first half of 2009 caused significant decreases in demand for our services. During the second half of 2009, the semiconductor industry showed signs of improvement from this downturn resulting in recent increases in demand for our services and improved utilization of our capacity.

Semiconductor companies outsource their packaging and test services to subcontract providers, such as Amkor, for the following reasons:

***Subcontract providers have developed expertise in advanced packaging and test technologies.***

Semiconductor companies face increasing demands for miniaturization, increased functionality and improved thermal and electrical performance in semiconductor devices. This trend, along with greater complexity in the design of semiconductor devices and the increased customization of interconnect packages, has led many semiconductor companies to view packaging and test as an enabling technology requiring sophisticated expertise and technological innovation. As packaging and test technology becomes more advanced, many semiconductor companies are relying on subcontract providers of packaging and test services as a key source of new package design, thereby enabling them to reduce their internal research and development costs.

***Subcontract providers offer a cost effective solution in a highly cyclical, capital intensive industry.***

Semiconductor packaging is a complex process requiring substantial investment in specialized equipment, factories and human resources. As a result of the large investments required, manufacturing facilities must operate at a high capacity level for an extended period of time to be cost effective. Shorter product life cycles, coupled with the need to update or replace packaging equipment to accommodate new package types, makes it more difficult for semiconductor



companies to maintain cost effective utilization of their packaging and test assets throughout semiconductor industry cycles. Subcontract providers of packaging and test services, on the other hand, can typically use their assets to support a broad range of customers, potentially generating more efficient use of their production assets and a more cost effective solution.

## **Table of Contents**

***Subcontract providers can facilitate a more efficient supply chain and thus help shorten time-to-market for new products.***

We believe that semiconductor companies, together with their customers, are seeking to shorten the time-to-market for their new products, and that having an effective supply chain is a critical factor in facilitating timely and successful product introductions. Semiconductor companies frequently do not have sufficient time to develop their packaging and test capabilities or deploy the equipment and expertise to implement new packaging technology in volume. For this reason, semiconductor companies are leveraging the resources and capabilities of subcontract packaging and test companies to deliver their new products to market more quickly.

***The availability of high quality packaging and test services from subcontractors allows semiconductor manufacturers to focus their resources on semiconductor design and wafer fabrication.***

As semiconductor process technology migrates to larger wafers and smaller feature size, the cost of building a state-of-the-art wafer fabrication factory has risen significantly, and can be several billions of dollars. The high cost of investing in next generation silicon technology and equipment is causing many semiconductor companies to adopt a fabless or fab-lite strategy in which they reduce or eliminate their investment in wafer fabrication and associated packaging and test assets, thus increasing the reliance on outsourced providers of semiconductor manufacturing services, including packaging and test. Fabless semiconductor companies do not have factories and focus exclusively on the semiconductor design process and outsource virtually every step of the manufacturing process.

## **COMPETITIVE STRENGTHS AND STRATEGY**

We believe we are well-positioned in the outsourced packaging and test market. To build upon our industry position and to remain one of the preferred subcontractors of semiconductor packaging and test services, we are pursuing the following strategies:

### ***Leading Technology Innovator***

We are a leader in developing advanced semiconductor packaging and test solutions. We have designed and developed several state-of-the-art package formats and technologies including our Package-on-Package with TMV (Through Mold Via), FusionQuad, fcBGA (Flip Chip Ball Grid Array), conformal shielding and copper pillar bumping and packaging technologies. In addition, we believe that as semiconductor technology continues to achieve smaller device geometries with higher levels of speed and performance, packages will increasingly require flip chip and wafer bump-based interconnect solutions. We have been investing in our technology leadership in electroplated and other wafer bump and wafer level processing. We have also been a leader in developing environmentally friendly ( Green ) integrated circuit packaging, which involves the elimination of lead and certain other materials.

We provide a complete range of test engineering services for radio frequency mixed signal, logic and memory devices, from test program development to full product characterization. Amkor is a major provider of radio frequency test services and a leader in strip test, an innovative parallel test solution that offers customers low cost, faster index time and improved yields.

We have approximately 400 employees engaged in research and development focusing on the design and development of new semiconductor packaging and test technologies.

### ***Long-Standing Relationships and Collaboration with Prominent Semiconductor Companies***

Our customers include most of the world's largest semiconductor companies and over the last four decades, Amkor has developed long-standing relationships with many of these companies. We believe that our production excellence has been a key factor in our success in attracting and retaining customers. We work with our customers and our suppliers to develop proprietary process technologies to enhance our existing capabilities, reduce time-to-market, increase quality and lower our costs.

## **Table of Contents**

We believe that our focus on research and product development will enable us to enter new markets early, capture market share and promote the adoption of our new package designs as industry standards. We collaborate with customers and leading OEMs to develop comprehensive package solutions that make it easier for next-generation semiconductors to be designed into next-generation end products. By collaborating with leading semiconductor companies and OEM electronic companies, we gain access to technology roadmaps for next generation semiconductor designs and obtain the opportunity to develop new packages that satisfy their future requirements.

### ***Broad Offering of Package Design, Packaging and Test Services***

Creating successful interconnect solutions for advanced semiconductor devices often poses unique thermal electrical and other design challenges, and Amkor employs a large number of package design engineers to solve these challenges. Amkor produces hundreds of package types which encompass more than 1,000 unique products, representing one of the broadest package offerings in the semiconductor industry. These package solutions are driven by the needs of our customers for more electrical connections, enhanced electrical or thermal performance, smaller package size and lower cost.

We provide customers with a wide array of packaging solutions including leadframe and laminate packages, using gold and copper wire bond and flip chip formats. We are a leading subcontract provider of:

Flip chip and wafer level packages, in which the semiconductor die is connected directly to the package substrate or system board, which deliver improved electrical performance used in high-power and high-speed applications such as graphics processors and microprocessors;

Three dimensional ( 3D ) such as package-on-package and stacked chip scale packages, in which the individual chips or individual packages are stacked vertically to provide integration of logic and memory, while preserving space on the system board;

Stacked chip scale packages which include high density memory die stacks, typically with wire bond connections and flip chip plus wire bond stacks called FlipStack that integrate a wire bond die on top of a flip chip die;

Advanced leadframe packages such as *MicroLeadFrame* and *FusionQuad* which are thinner and smaller packages and have the ability to accommodate more leads and have better thermal and electrical characteristics than traditional leadframe packages;

Multi-chip or system-in-package ( SiP ) modules used in mobile phones and other handheld end-products; and

Packages for micro-electromechanical system devices, which are used in a variety of end markets including automotive, industrial and consumer electronics.

We are expanding our copper wire capabilities in support of both advanced and commodity packages, as some customers are migrating to copper wire bond to mitigate their exposure to gold prices. We also offer an extensive line of advanced probe and final test services for analog, digital, logic, mixed signal and radio frequency semiconductor devices. We believe that the breadth of our design, packaging and test services is important to customers seeking to limit the number of their suppliers.

### ***Geographically Diversified Operational Base***

We have a broad geographical base of more than five million square feet of manufacturing space strategically located in seven countries in many of the world's important electronics manufacturing regions.

Our customers benefit from one of the industry's most extensive operational footprints. We believe that our scale and scope allow us to provide cost effective solutions to our customers by offering:

Capacity to absorb large orders and accommodate quick turn-around times;

**Table of Contents**

Favorable pricing on materials and equipment, where possible, by using our purchasing power and industry position;

Dual site qualifications and capabilities and solutions for specific loading requirements and risk mitigation; and

Broad range of packaging and test services so that we can provide multiple or turnkey solutions for many packaging needs, including semiconductor wafer bump, wafer probe, wafer backgrind, package design, assembly, strip test, singulated test and drop shipment services to name a few.

**Competitive Cost Structure**

We believe that a competitive cost structure and disciplined capital investment decisions are key factors for achieving profitability and generating free cash flow. There has been a continuous push throughout the entire semiconductor supply chain for lower cost solutions. Some of our cost control efforts have included: (1) increasing strip densities to drive higher throughput on a single substrate strip; (2) developing smaller gold wire diameter solutions; and (3) increasing labor productivity.

We operate in a cyclical industry. During an industry downturn, similar to the downturn in the second half of 2008 and the first half of 2009, we take actions to reduce our costs to focus on generating cash flow and driving greater factory and administrative efficiencies. Cost control efforts can include reducing labor costs by temporarily lowering compensation, reducing employee and contractor headcount, shortening work weeks and obtaining labor-related foreign government subsidies. We may also limit our capital additions as we did in 2009.

**PACKAGING AND TEST SERVICES**

The following table sets forth, for the periods indicated, the amount of packaging and test net sales in millions of dollars and the percentage of such net sales:

	Year Ended December 31,					
	2009		2008		2007	
<b>Packaging services</b>						
Chip scale package	\$ 695	31.9%	\$ 697	26.2%	\$ 647	23.6%
Ball grid array	500	23.0%	751	28.3%	722	26.4%
Leadframe	587	26.9%	753	28.3%	893	32.6%
Other packaging	152	7.0%	144	5.4%	168	6.1%
Total packaging services	1,934	88.8%	2,345	88.2%	2,430	88.7%
Test services	245	11.2%	314	11.8%	309	11.3%
Total net sales	\$ 2,179	100.0%	\$ 2,659	100.0%	\$ 2,739	100.0%

**Packaging Services**

We offer a broad range of package formats and services designed to provide our customers with a full array of packaging solutions. Our package services are divided into families: chip scale package, ball grid array, leadframe and

other packaging services.

In response to the increasing demands of today's high-performance electronic products, semiconductor packages have evolved and are designed based on application specific requirements. The differentiating characteristics of package formats can include: (1) size, (2) number of electrical connections, (3) thermal and electrical characteristics, (4) number of semiconductor devices incorporated and (5) integration of active and passive components.

Evolving semiconductor process technology and computer aided simulation toolsets have allowed integrated circuit designers to optimize the level of performance and functionality in electronic systems. The resultant integrated circuits, commonly referred to as system-on-chip solutions, often drive a higher number of electrical connections. The high number of electrical connections can be accommodated using a number of interconnect

## **Table of Contents**

technologies, including flip chip and wire bond interconnect or a combination of both, commonly referred to as a hybrid interconnect. Flip chip packages provide a higher density interconnection capability than wire bond, as wire bond interconnect is limited to the perimeter of the semiconductor device, whereas flip chip can use the entire surface area of the semiconductor device.

Flip chip assembly is the direct electrical connection of a face-down semiconductor device (or flipped) onto a substrate. The connection is made through a conductive medium (or bump) on the semiconductor device, then subsequently joined to the surface of the substrate. Advantages of flip chip technology include enhanced thermal-electrical performance as well as thinner and smaller form factors.

### *Chip Scale Packages*

We have designed a variety of chip scale packages where the package size is not much larger than the chip itself. The size advantage provided by a chip scale package has made this the package of choice for a number of end applications in the consumer electronics market that have very small form factors, such as smart phones, MP3 players and mobile internet devices. Some of our chip scale packages include ChipArray, wafer level chip scale package and flip chip chip scale package. In wafer level chip scale packaging, the semiconductor device becomes the package as the interconnect is constructed using various wafer bumping technologies. The bumped wafer is subsequently singulated (or diced) creating individually bumped semiconductor devices, which are then put into tape and reel for future printed circuit board assembly.

Advances in packaging technology now allow the placement of two or more semiconductor devices on top of each other within an individual package. This concept, known as 3D packaging, permits a higher level of semiconductor density and greater functionality. Some of our 3D packages include:

Stacked chip scale package ( SCSP ), which contains two or more chips placed on top of each other. SCSP structures can include up to eight or more stacked semiconductor devices, which are ideal for solid state memory applications supporting mobile phones, MP3 players and other data storage consumer electronic systems.

Package-on-package, which is an extremely thin chip scale package that can be stacked on top of each other, enabling the integration of logic and memory in a single footprint, supporting smart phones, digital camera or other handheld applications.

Our chip scale package family also includes system-in-package modules. System-in-package modules integrate various system elements into a single-function block, thus enabling space and power efficiency, high performance and lower production costs. Our system-in-package technology is being used in a variety of devices including: power amplifiers for mobile phones and other portable communication devices; wireless local area network modules for networking applications; and sensors, such as fingerprint recognition devices and micro-electromechanical system based microphones.

### *Ball Grid Array Packages*

The ball grid array format was developed to facilitate the higher number of interconnections required by many advanced semiconductor devices. The close proximity of an increasing number of leads resulted in higher incidence of shorting and other electrical challenges. Higher lead counts also drove the development of more sophisticated and costly circuit boards to accommodate the high number of leads. Ball grid array solves these problems by effectively creating interconnects on the bottom of the package in the form of small bumps or balls that can be evenly distributed across the entire bottom surface of the package, allowing greater distance between the individual electrical



connections. Examples of ball grid array package families are:

Flip chip BGA ( fcBGA ) incorporates a face down chip onto a substrate using a ball grid array format and is increasingly being used in advanced silicon nodes enabling our customers to implement more powerful new applications and smaller devices. The fcBGA package is used for networking and storage, gaming and computer applications; and

## **Table of Contents**

Plastic ball grid array ( PBGA ) packages use wire bond technology in applications requiring higher electrical interconnect counts or higher thermal performance. PBGA packages are typically used in an application residing between smaller body chip scale packages, such as handheld mobile applications, and the very high pin-count or large body size fcBGA packages are typically used in high-end networking and gaming applications. Common PBGA applications include laptop computers, video cameras, gaming systems and digital televisions.

### *Leadframe Packages*

Leadframe-based packages are the most widely used package family in the semiconductor industry. These are typically characterized by a chip encapsulated in a plastic mold compound with copper metal leads on the perimeter.

Traditional leadframe-based packages support a wide variety of device types and applications. Two of our most popular traditional leadframe package types are small outline integrated circuit and quad flat package, commonly known as dual or quad products, respectively, based upon the number of sides from which the leads extend. The traditional leadframe package family has evolved from through hole design, where the leads are plugged into holes on the circuit board to surface mount design, where the leads are soldered to the surface of the circuit board. We offer a wide range of lead counts and body sizes to satisfy variations in the size of customers semiconductor devices.

Through a process of continuous engineering and customization, we have designed several advanced leadframe package types that are thinner and smaller than traditional leadframe packages, with the ability to accommodate more leads on the perimeter of the package. These advanced leadframe packages typically have superior thermal and electrical characteristics, which allow them to dissipate heat generated by high-powered semiconductor devices while providing enhanced electrical connectivity. We plan to continue to develop increasingly smaller versions of these packages to keep pace with continually shrinking semiconductor device sizes and demand for miniaturization of portable electronic products. Two of these advanced leadframe packages are described as follows:

One of our most successful advanced leadframe package offerings is the *MicroLeadFrame* family of QFN, or quad flat no lead packages. This package family is particularly well suited for radio frequency and wireless applications.

FusionQuad integrates both bottom leads and peripheral leads, which significantly reduce the package size. The package targets applications for mobile hard disk drives, notebook computers and consumer electronics such as digital televisions and set top boxes.

### *Other Packaging Services*

The other category of packaging services is largely comprised of wafer bumping services that support chip scale packaging and ball grid array product offerings. With wafer bumping, inter-connections are formed on an entire wafer prior to dicing, rather than the traditional method of forming the interconnections on a separated die. Wafer bumping has technical and economic advantages over traditional wire bonding. Wafer bumping consists of preparing the wafer for bumping and forming or placing the bumps. Preparation may include cleaning, removing insulating oxides, and providing a pad metallurgy that will protect the interconnections while making a good mechanical and electrical connection between the bump and the board. Bumps may be formed or placed on the wafer in many ways, including sputtering, electroplating, stud bumping and direct placement. Wafer bumping is a precursor to flip chip assembly. In certain instances, packages are created on the surface of a wafer, for example wafer level chip scale packages, which are used for space constrained applications with low power and low lead count requirements.

*Test Services*

We are a leading subcontract provider of a broad range of semiconductor integrated circuit test services including wafer probe, final test, strip test, system level test and other test-related services. Our test development centers provide complete test engineering services from test program development to full product functionality. The

## **Table of Contents**

integrated circuit devices we test encompass nearly all technologies produced in the semiconductor industry today including digital, linear, mixed signal, memory, radio frequency and integrated combinations of these technologies. In 2009, we tested 3.7 billion units. We tested 48%, 49% and 48% of the units that we packaged in 2009, 2008 and 2007, respectively. Our test operations complement traditional wire bond as well as wafer level chip scale packages, multi-chip SiP modules and flip chip packaging technologies.

We invest in advanced test equipment to continue to provide leading edge test capability. Our test facilities are often co-located with wafer bump and packaging services for fast feedback, lower costs, streamlined logistics and faster cycle time. We have test facilities in China, Japan, Korea, the Philippines, Singapore, Taiwan and the United States. Our testing services include:

### *Wafer Probe*

Our wafer probe testing services provide for the visual inspection and electrical testing of the wafer for defects prior to packaging. Wafer probe includes wafer mapping, a method to identify the location and characteristics of each die on the wafer. We offer thermal controlled probe, bumped wafer probe, single and double pass probe and multi-site probe among others.

### *Test Development and Engineering*

We assist our customers with the development of required testing for their products. Our engineering services include software and hardware conversion of single-site (one device at a time) to multi-site (multiple devices in parallel), test program development, test hardware development and test program conversion to lower cost test systems. We have test development centers in Korea, the Philippines and the United States, as well as teams of highly skilled engineers in each test facility.

### *Strip Test*

Using our strip test process, electronically isolated packaged units are tested in parallel while still in a leadframe strip form prior to separation. This process results in faster handler times and higher throughput rates, thus reducing test cost and increasing test yield.

### *Final Test*

Final test is the process of testing each device after it has been packaged. Final test analyzes the attributes of each device and determines if it meets criteria specified by the customer. We offer test services for many devices including simple digital logic, complex application specific integrated circuits, high speed digital, memory, mixed signal and RF and wireless devices.

For packaging and test segment information, see Note 18 to our Consolidated Financial Statements in Part II, Item 8 of this Annual Report.

## **RESEARCH AND DEVELOPMENT**

Our research efforts focus on developing new package solutions, test services and improving the efficiency and capabilities of our existing production processes. We believe that technology development is one of the key success differentiators in the semiconductor packaging and test markets. By concentrating our research and development on our customers' needs for innovative packages, increased performance and lower cost, we gain opportunities to enter markets early, capture market share and promote our new package offerings as industry standards. In addition, we

leverage our research and development by licensing our leading edge technology, such as *MicroLeadFrame*, Fine Pitch Copper Pillar, Through Mold Via, Lead Free Bumping and FusionQuad.

Our key areas for research and development are:

3D packaging;

Advanced flip chip packaging;

**Table of Contents**

Advanced micro-electromechanical system packaging;  
Copper Pillar bumping and packaging;  
Copper wire interconnects;  
Engineering and characterization tools;  
Laminate and leadframe packaging;  
Manufacturing cost reduction;  
Through Mold Via technology;  
Through Silicon Via technology;  
Wafer Level Fan Out technology; and  
Wafer level processing.

We have key development partners within our customer and supplier base. We work with our partners and allocate our resources to develop applications that have promising potential for a profitable return on investment.

As of December 31, 2009, we had approximately 400 employees engaged in research and development activities. In 2009, 2008 and 2007, we spent \$44.5 million, \$56.2 million and \$41.7 million, respectively, on research and development.

**MARKETING AND SALES**

Our marketing and sales offices are located throughout the world. Our support personnel manage and promote our packaging and test services and provide key customer and technical support.

To provide comprehensive sales and customer service, we typically assign our customers a direct support team consisting of an account manager, technical program manager, test program manager and both field and factory customer support representatives. We also support our largest multinational customers from multiple office locations to ensure that we are aligned with their global operational and business requirements.

Our direct support teams are further supported by an extended staff of product, process, quality and reliability engineers, as well as marketing and advertising specialists, information systems technicians and factory personnel. Together, these direct and extended support teams deliver an array of services to our customers. These services include:

Managing and coordinating ongoing manufacturing activity;  
Providing information and expert advice on our portfolio of packaging and test solutions and related trends;  
Managing the start-up of specific packaging and test programs to improve our customers' time-to-market;

Providing a continuous flow of information to our customers regarding products and programs in process;

Partnering with customers on design solutions;

Researching and assisting in the resolution of technical and logistical issues;

Aligning our technologies and research and development activities with the needs of our customers and OEMs;

Providing guidance and solutions to customers in managing their supply chains;

Driving industry standards;

Providing design and simulation services to ensure package reliability; and

Collaborating with our customers on continuous quality improvement initiatives.

## **Table of Contents**

Further, we implement direct electronic links with our customers to:

Achieve near real time and automated communications of order fulfillment information, such as inventory control, production schedules and engineering data, including production yields, device specifications and quality indices; and

Connect our customers to our sales and marketing personnel world-wide and to our factories.

## **SEASONALITY**

Our sales have generally been higher in the second half of the year than in the first half due to the effect of consumer buying patterns in the U.S., Europe and Asia. In addition, semiconductor companies in the U.S. generally reduce their production during the holidays at the end of December which results in a decrease in units for packaging and test services during the first quarter. Our business is tied to market conditions in the semiconductor industry which is highly cyclical. The semiconductor industry has experienced significant and sometimes prolonged cyclical downturns in the past. We can not predict the timing, strength or duration of any economic slowdown or subsequent economic recovery.

## **CUSTOMERS**

As of December 31, 2009, we had approximately 250 customers, including many of the largest semiconductor companies in the world. The table below lists our top 25 customers in 2009 based on net sales:

Altera Corporation	Micron Technology, Inc.
Analog Devices, Inc.	NEC Corporation
Atheros Communication, Inc.	NXP Semiconductors
Atmel Corporation	ON Semiconductor Corp.
Avago Technologies Limited	Qualcomm Incorporated
Broadcom Corporation	Shanghai Hong Ri International Electronics Co., Ltd.
Conexant Systems, Inc.	PMC Sierra, Inc.
Entropic Communications Limited	Sony Electronics Inc.
Global Unichip Corp.	ST Microelectronics, Pte
Infineon Technologies AG	Texas Instruments Inc.
Intel Corporation	Toshiba Corporation
International Business Machines Corporation ( IBM )	Xilinx, Inc.
LSI Corporation	

Our top 25 customers accounted for 76.0% of our net sales in 2009, and our ten largest customers accounted for approximately 53.4%, 49.8% and 47.0% of our net sales for the years ended December 31, 2009, 2008 and 2007, respectively. Qualcomm Incorporated accounted for more than 10% of our consolidated net sales in 2009. No customer accounted for more than 10% of our consolidated net sales in 2008 or 2007.

For segment information, see Note 18 to our Consolidated Financial Statements in Part II, Item 8 of this Annual Report.

## **MATERIALS AND EQUIPMENT**



*Materials*

Our materials are used primarily for packaging activities. Our packaging operations depend upon obtaining adequate supplies of materials on a timely basis. The principal materials used in our packaging process are leadframes, laminate substrates, gold and copper wire, mold compound, epoxy, tubes and trays. The silicon wafer is generally consigned from the customer. We do not take ownership of the customer consigned wafer and title and risk of loss remains with the customer for these materials. Test materials constitute a very small portion of our total test cost. We purchase materials based on customer forecasts and our customers are generally responsible for any unused materials which we purchased based on such forecasts.

## **Table of Contents**

We work closely with our primary material suppliers to ensure that materials are available and delivered on time. Moreover, utilizing commodity managers to globally manage specific commodities, we also negotiate world-wide pricing agreements with our major suppliers to take advantage of the scale of our operations. We are not dependent on any one supplier for a substantial portion of our material requirements.

### ***Equipment***

Our ability to meet the changing demand for our customers for manufacturing capacity requirements depends upon obtaining packaging and test equipment in a timely manner. We work closely with our main equipment suppliers to coordinate the ordering and delivery of equipment to meet our expected capacity needs.

#### ***Packaging Equipment***

The primary equipment used in the packaging of products is wire bonders and die bonders. In addition, we maintain a variety of other packaging equipment, including mold, singulation, die attach, ball attach, and wafer backgrind along with numerous other types of manufacturing equipment. A substantial portion of our packaging equipment base can generally be used and adapted to support the manufacture of many of our package families through the use of relatively low cost tooling.

We purchase wafer bumping equipment to facilitate the manufacture of our flip chip and wafer level packaging lines. Wafer bump equipment includes sputter and spin coaters, electroplating equipment and reflow ovens and tends to have longer lead times for order and installation than other packaging equipment and is sold in relatively larger increments of capacity.

#### ***Test Equipment***

The primary equipment used in the testing process includes tester, handler and probe equipment. Handlers are used to transfer individual or small groups of packaged integrated circuits to a tester. Testers are generally a more capital intensive portion of the process and tend to have longer delivery lead times than most other types of packaging equipment. We focus our capital additions on standardized tester platforms in order to maximize test equipment utilization.

## **ENVIRONMENTAL MATTERS**

The semiconductor packaging process uses chemicals, materials and gases and generates byproducts that are subject to extensive governmental regulations. For example, we produce liquid waste when semiconductor wafers are diced into chips with the aid of diamond saws, then cooled with running water. In addition, semiconductor packages have historically utilized metallic alloys containing lead (Pb) within the interconnect terminals typically referred to as leads, pins or balls. The usage of lead (Pb) has decreased over the past few years, as we have ramped volume production of alternative lead (Pb)-free processes. Federal, state and local regulations in the U.S., as well as environmental regulations internationally, impose various controls on the storage, handling, discharge and disposal of chemicals and materials used in our manufacturing processes and in the factories we occupy.

We are engaged in a continuing program to assure compliance with federal, state and local environmental laws and regulations. We currently do not expect that capital expenditures or other costs attributable to compliance with environmental laws and regulations will have a material adverse effect on our business, liquidity, results of operations, financial condition or cash flows.

## **COMPETITION**

The subcontracted semiconductor packaging and test market is very competitive. We face substantial competition from established packaging and test service providers primarily located in Asia, including companies with significant manufacturing capacity, financial resources, research and development operations, marketing and other capabilities. These companies include:

Advanced Semiconductor Engineering, Inc.,

**Table of Contents**

Siliconware Precision Industries Co., Ltd. and

STATS ChipPAC Ltd.

Such companies also have developed relationships with most of the world's largest semiconductor companies, including current or potential customers of Amkor. We also compete with the internal semiconductor packaging and test capabilities of many of our customers. Our integrated device manufacturer customers continually evaluate the outsourced services against their own in-house package and test services and at times decide to shift some or all of their outsourced packaging and test services to internally sourced capacity.

The principal elements of competition in the subcontracted semiconductor packaging market include:

technical competence;

quality;

price;

breadth of package offering;

new package design and implementation;

cycle times;

customer service; and

available capacity.

We believe that we generally compete favorably with respect to each of these elements.

**INTELLECTUAL PROPERTY**

We maintain an active program to protect and derive value from our investment in technology and the associated intellectual property rights. Intellectual property rights that apply to our various products and services include patents, copyrights, trade secrets and trademarks. We have filed and obtained a number of patents in the U.S. and abroad the duration of which varies depending on the jurisdiction in which the patent is filed. While our patents are an important element of our intellectual property strategy, as a whole, we are not materially dependent on any one patent or any one technology. We expect to continue to file patent applications when appropriate to protect our proprietary technologies, but we cannot assure you that we will receive patents from pending or future applications. In addition, any patents we obtain may be challenged, invalidated or circumvented and may not provide meaningful protection or other commercial advantage to us.

We also protect certain details about our processes, products and strategies as trade secrets, maintaining the confidentiality of the information we believe provides us with a competitive advantage. We have ongoing programs designed to maintain the confidentiality of such information. Further, to distinguish our products from our competitors products, we have obtained certain trademarks and service marks. We have promoted and will continue to promote our particular brands through advertising and other marketing techniques.

**EMPLOYEES**

As of December 31, 2009, we had 18,200 full-time employees. Of the total employee population, 13,200 were engaged in manufacturing services, 3,000 were engaged in manufacturing support, 400 were engaged in research and development, 200 were engaged in marketing and sales and 1,400 were engaged in administration, business management and finance. We believe that our relations with our employees are good, and we have never experienced a work stoppage in any of our factories. Our employees in China, France, the Philippines, Taiwan and the U.S. are not represented by any union. Certain members of our factories in Japan and Korea are members of a union, and those that are members of a union are subject to collective bargaining agreements.

**Table of Contents**

**Item 1A. Risk Factors**

The factors discussed below are cautionary statements that identify important factors and risks that could cause actual results to differ materially from those anticipated by the forward-looking statements contained in this report. For more information regarding the forward-looking statements contained in this report, see the introductory paragraph to Part II, Item 7 of this Annual Report. You should carefully consider the risks and uncertainties described below, together with all of the other information included in this report, in considering our business and prospects. The risks and uncertainties described below are not the only ones facing Amkor. Additional risks and uncertainties not presently known to us also may impair our business operations. The occurrence of any of the following risks could affect our business, liquidity, results of operations, financial condition or cash flows.

***Dependence on the Highly Cyclical Semiconductor and Electronic Products Industries We Operate in Volatile Industries and Industry Downturns and Declines in Global Economic and Financial Conditions Could Harm Our Performance.***

Our business reflects the market conditions in the semiconductor industry, which is cyclical by nature. The semiconductor industry has experienced significant and sometimes prolonged downturns in the past. For example, the recent financial crisis and global recession resulted in a downturn in the semiconductor industry that adversely affected our business and results of operations in late 2008 and in 2009.

Since our business is, and will continue to be, dependent on the requirements of semiconductor companies for subcontracted packaging and test services, any downturn in the semiconductor industry or any other industry that uses a significant number of semiconductor devices, such as consumer electronic products, telecommunication devices, or computing devices, could have a material adverse effect on our business and operating results. It is difficult to predict the timing, strength or duration of any economic slowdown or subsequent economic recovery, and if industry conditions deteriorate, we could suffer significant losses, as we have in the past, which could materially impact our business, liquidity, results of operations, financial condition and cash flows.

***Fluctuations in Operating Results and Cash Flows Our Operating Results and Cash Flows Have Varied and May Vary Significantly as a Result of Factors That We Cannot Control.***

Many factors, including the impact of adverse economic conditions, could materially and adversely affect our net sales, gross profit, operating results and cash flows, or lead to significant variability of quarterly or annual operating results. Our profitability and ability to generate cash from operations is principally dependent upon demand for semiconductors, the utilization of our capacity, semiconductor package mix, the average selling price of our services, our ability to manage our capital expenditures in response to market conditions and our ability to control our costs including labor, material, overhead and financing costs. The recent downturn in demand for semiconductors resulted in significant declines in our operating results and cash flows as capacity utilization declined.

Our operating results and cash flows have varied significantly from period to period. Our net sales, gross margins, operating income and cash flows have historically fluctuated significantly as a result of many of the following factors, over which we have little or no control and which we expect to continue to impact our business:

fluctuation in demand for semiconductors and conditions in the semiconductor industry;

changes in our capacity utilization rates;

changes in average selling prices;

changes in the mix of semiconductor packages;

evolving package and test technology;

absence of backlog and the short-term nature of our customers' commitments and the impact of these factors on the timing and volume of orders relative to our production capacity;

changes in costs, availability and delivery times of raw materials and components;

**Table of Contents**

changes in labor costs to perform our services;

wage and commodity price inflation, including precious metals;

the timing of expenditures in anticipation of future orders;

changes in effective tax rates;

the availability and cost of financing;

intellectual property transactions and disputes;

high leverage and restrictive covenants;

warranty and product liability claims and the impact of quality excursions and customer disputes and returns;

costs associated with litigation judgments, indemnification claims and settlements;

international events, political instability, civil disturbances or environmental or natural events, such as earthquakes, that impact our operations;

pandemic illnesses that may impact our labor force and our ability to travel;

difficulties integrating acquisitions;

our ability to attract and retain qualified employees to support our global operations;

loss of key personnel or the shortage of available skilled workers;

fluctuations in foreign exchange rates;

delay, rescheduling and cancellation of large orders; and

fluctuations in our manufacturing yields.

It is often difficult to predict the impact of these factors upon our results for a particular period. The downturn in the global economy and the semiconductor industry increased the risks associated with the foregoing factors as customer forecasts became more volatile, and there was less visibility regarding future demand and significantly increased uncertainty regarding the economy, credit markets, and consumer demand. These factors may materially and adversely affect our business, liquidity, results of operations, financial condition and cash flows, or lead to significant variability of quarterly or annual operating results. In addition, these factors may adversely affect our credit ratings which could make it more difficult and expensive for us to raise capital and could adversely affect the price of our securities.

***High Fixed Costs Due to Our High Percentage of Fixed Costs, We Will Be Unable to Maintain Our Gross Margin at Past Levels if We Are Unable to Achieve Relatively High Capacity Utilization Rates.***



Our operations are characterized by relatively high fixed costs. Our profitability depends in part not only on pricing levels for our packaging and test services, but also on the utilization of our human resources and packaging and test equipment. In particular, increases or decreases in our capacity utilization can significantly affect gross margins since the unit cost of packaging and test services generally decreases as fixed costs are allocated over a larger number of units. In periods of low demand, we experience relatively low capacity utilization in our operations, which lead to reduced margins during that period. For example, we experienced lower than optimum utilization in the three months ended December 31, 2008 and the first half of 2009 due to a decline in world-wide demand for our packaging and test services which impacted our gross margin. Although our capacity utilization at times have been strong, we cannot assure you that we will be able to achieve consistently high capacity utilization, and if we fail to do so, our gross margins may decrease. If our gross margins decrease, our business, liquidity, results of operations, financial condition and cash flows could be materially and adversely affected.

In addition, our fixed operating costs have increased in recent years in part as a result of our efforts to expand our capacity through significant capital additions. Forecasted customer demand for which we have made capital

**Table of Contents**

investments may not materialize. As a result, our sales may not adequately cover our substantial fixed costs resulting in reduced profit levels or causing significant losses, both of which may adversely impact our liquidity, results of operations, financial condition and cash flows. Additionally, we could suffer significant losses if current industry conditions deteriorate, which could materially impact our business, liquidity, results of operations, financial position and cash flows.

***Guidance Our Failure to Meet Our Guidance or Analyst Projections Could Adversely Impact the Trading Prices of Our Securities.***

We periodically provide guidance to investors with respect to certain financial information for future periods. Securities analysts also periodically publish their own projections with respect to our future operating results. As discussed above under *Fluctuations in Operating Results and Cash Flows Our Operating Results and Cash Flows Have Varied and May Vary Significantly as a Result of Factors That We Cannot Control*, our operating results and cash flows vary significantly and are difficult to accurately predict. Volatility in customer forecasts and reduced visibility caused by economic uncertainty and fluctuations in global consumer demand make it particularly difficult to predict future results. To the extent we fail to meet or exceed our own guidance or the analyst projections for any reason, the trading prices of our securities may be adversely impacted. Moreover, even if we do meet or exceed that guidance or those projections, the analysts and investors may not react favorably, and the trading prices of our securities may be adversely impacted.

***Declining Average Selling Prices The Semiconductor Industry Places Downward Pressure on the Prices of Our Packaging and Test Services.***

Prices for packaging and test services have generally declined over time. Historically, we have been able to partially offset the effect of price declines by successfully developing and marketing new packages with higher prices, such as advanced leadframe and laminate packages, by negotiating lower prices with our material vendors, recovering material cost increases from our customers, and by driving engineering and technological changes in our packaging and test processes which resulted in reduced manufacturing costs. We expect general downward pressure on average selling prices for our packaging and test services in the future. If we are unable to offset a decline in average selling prices, including developing and marketing new packages with higher prices, reducing our purchasing costs, recovering more of our material cost increases from our customers and reducing our manufacturing costs, our business, liquidity, results of operations, financial condition and cash flows could be materially adversely affected.

***Decisions by Our Integrated Device Manufacturer Customers to Curtail Outsourcing May Adversely Affect Our Business.***

Historically, we have been dependent on the trend in outsourcing of packaging and test services by integrated device manufacturers ( IDMs ). Our IDM customers continually evaluate the outsourced services against their own in-house packaging and test services. As a result, at any time and for a variety of reasons, IDMs may decide to shift some or all of their outsourced packaging and test services to internally sourced capacity.

The reasons IDMs may shift their internal capacity include:

their desire to realize higher utilization of their existing test and packaging capacity, especially during downturns in the semiconductor industry;

their unwillingness to disclose proprietary technology;

their possession of more advanced packaging and test technologies; and

the guaranteed availability of their own packaging and test capacity.

Furthermore, to the extent we limit capacity commitments for certain customers, these customers may begin to increase their level of in-house packaging and test capabilities, which could adversely impact our sales and profitability and make it more difficult for us to regain their business when we have available capacity. Any shift or a

**Table of Contents**

slowdown in this trend of outsourcing packaging and test services is likely to adversely affect our business, liquidity, results of operations, financial condition and cash flows.

In a downturn in the semiconductor industry, IDMs could respond by shifting some outsourced packaging and test services to internally serviced capacity on a short term basis. If we experience a significant loss of IDM business, it could have a material adverse effect on our business, liquidity, results of operations, financial condition and cash flows especially during a prolonged industry downturn.

***Our Substantial Indebtedness Could Adversely Affect Our Financial Condition and Prevent Us from Fulfilling Our Obligations.***

We have a significant amount of indebtedness. As of December 31, 2009, our total debt balance was \$1,434.2 million, of which \$88.9 million was classified as a current liability. In addition, despite current debt levels, the terms of the indentures governing our indebtedness allow us or our subsidiaries to incur more debt, subject to certain limitations. If new debt is added to our consolidated debt level, the related risks that we now face could intensify.

Our substantial indebtedness could:

make it more difficult for us to satisfy our obligations with respect to our indebtedness, including our obligations under our indentures to purchase notes tendered as a result of a change in control of Amkor;

increase our vulnerability to general adverse economic and industry conditions;

limit our ability to fund future working capital, capital expenditures, research and development and other general corporate requirements;

require us to dedicate a substantial portion of our cash flow from operations to service payments on our debt;

increase the volatility of the price of our common stock;

limit our flexibility to react to changes in our business and the industry in which we operate;

place us at a competitive disadvantage to any of our competitors that have less debt; and

limit, along with the financial and other restrictive covenants in our indebtedness, among other things, our ability to borrow additional funds.

***Ability to Fund Liquidity Needs.***

We operate in a capital intensive industry. Servicing our current and future customers requires that we incur significant operating expenses and continue to make significant capital expenditures, which are generally made in advance of the related revenues and without any firm customer commitments. During 2009, we had capital additions of \$197.7 million and in 2010, we expect to make capital additions of approximately 14% of net sales.

In addition, we have a significant level of debt, with \$1,434.2 million outstanding at December 31, 2009, \$88.9 million of which is current. The terms of such debt require significant scheduled principal payments in the coming years, including \$88.9 million due in 2010, \$139.6 million due in 2011, \$43.1 million due in 2012, \$501.2 million due in 2013, \$271.4 million due in 2014 and \$390.0 million due thereafter. The interest payments required on our debt are also substantial. For example, in the year ended December 31, 2009, we paid \$116.2 million

of interest. The source of funds to fund our operations, including making capital expenditures and servicing principal and interest obligations with respect to our debt, are cash flows from our operations, current cash and cash equivalents, borrowings under available debt facilities, or proceeds from any additional debt or equity financing. As of December 31, 2009, we had cash and cash equivalents of \$395.4 million and \$96.5 million available under our senior secured revolving credit facility which matures in April 2013.

We assess our liquidity based on our current expectations regarding sales, operating expenses, capital spending and debt service requirements. Based on this assessment, we believe that our cash flow from operating activities together with existing cash and cash equivalents will be sufficient to fund our working capital, capital expenditure and debt service requirements for at least the next twelve months. Thereafter, our liquidity will continue to be

**Table of Contents**

affected by, among other things, the performance of our business, our capital expenditure levels and our ability to repay debt out of our operating cash flow or refinance the debt with the proceeds of debt or equity offerings at or prior to maturity. Moreover, the health of the worldwide banking system and financial markets affects the liquidity in the global economic environment. Volatility in fixed income, credit and equity markets could make it difficult for us to maintain our existing credit facilities or refinance our debt. If our performance or access to the capital markets differs materially from our expectations, our liquidity may be adversely impacted.

In addition, if we fail to generate the necessary net income or operating cash flows to meet the funding needs of our business beyond the next twelve months due to a variety of factors, including the cyclical nature of the semiconductor industry and the other factors discussed in this Risk Factors section, our liquidity would be adversely affected.

***Our Ability To Draw On Our Current Loan Facilities May Be Adversely Affected by Conditions in the U.S. and International Capital Markets.***

If financial institutions that have extended credit commitments to us are adversely affected by the conditions of the U.S. and international capital and credit markets, they may be unable to fund borrowings under their credit commitments to us. For example, we currently have a \$100.0 million revolving credit facility with three banks in the U.S. If any of these banks are adversely affected by capital and credit market conditions and are unable to make loans to us when requested, there could be a corresponding adverse impact on our financial condition and our ability to borrow additional funds, if needed, for working capital, capital expenditures, acquisitions, research and development and other corporate purposes.

***Restrictive Covenants in the Indentures and Agreements Governing Our Current and Future Indebtedness Could Restrict Our Operating Flexibility.***

The indentures and agreements governing our existing debt, and debt we may incur in the future, contain, or may contain, affirmative and negative covenants that materially limit our ability to take certain actions, including our ability to incur debt, pay dividends and repurchase stock, make certain investments and other payments, enter into certain mergers and consolidations, engage in sale leaseback transactions and encumber and dispose of assets. The \$671.1 million write-off of our goodwill at December 31, 2008 significantly reduced our ability to pay dividends and repurchase stock and subordinated securities, including our convertible notes, due to defined calculations which include net income. In addition, our future debt agreements may contain financial covenants and ratios.

The breach of any of these covenants by us or the failure by us to meet any of these ratios or conditions could result in a default under any or all of such indebtedness. If a default occurs under any such indebtedness, all of the outstanding obligations thereunder could become immediately due and payable, which could result in a default under our other outstanding debt and could lead to an acceleration of obligations related to other outstanding debt. The existence of such a default or event of default could also preclude us from borrowing funds under our revolving credit facilities. Our ability to comply with the provisions of the indentures, credit facilities and other agreements governing our outstanding debt and indebtedness we may incur in the future can be affected by events beyond our control and a default under any debt instrument, if not cured or waived, could have a material adverse effect on us.

***We Have Significant Severance Plan Obligations Associated With Our Manufacturing Operations in Korea Which Could Reduce Our Cash Flow and Negatively Impact Our Financial Condition.***

We sponsor an accrued severance plan for our Korean subsidiary. Under the Korean plan, eligible employees are entitled to receive a lump sum payment upon termination of their employment based on their length of service, seniority and rate of pay at the time of termination. Since our severance plan obligation is significant, in the event of a significant layoff or other reduction in our labor force in Korea, payments under the plan could have a material

adverse effect on our liquidity, financial condition and cash flows. In addition, existing tax laws in Korea limit our ability to currently deduct severance expenses associated with the current plan. These limitations are designed to encourage companies to migrate to a defined contribution or defined benefit plan. If we adopt a new plan retrospectively, we would be required to significantly fund the existing liability, which could have a material

**Table of Contents**

adverse effect on our liquidity, financial condition and cash flows. If we do not adopt a new plan, we will have to pay higher taxes which could adversely affect our liquidity, financial condition and cash flows. See Note 13 to our Consolidated Financial Statements included in this Annual Report.

***If We Fail to Maintain an Effective System of Internal Controls, We May Not be Able to Accurately Report Financial Results or Prevent Fraud.***

Effective internal controls are necessary to provide reliable financial reports and to assist in the effective prevention of fraud. Any inability to provide reliable financial reports or prevent fraud could harm our business. We must annually evaluate our internal procedures to satisfy the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, which requires management and our independent registered public accounting firm to assess the effectiveness of internal control over financial reporting. If we fail to remedy or maintain the adequacy of our internal controls, as such standards are modified, supplemented or amended from time to time, we could be subject to regulatory scrutiny, civil or criminal penalties or shareholder litigation.

In addition, failure to maintain adequate internal controls could result in financial statements that do not accurately reflect our operating results or financial condition.

***We Face Product Return and Liability Risks, the Risk of Economic Damage Claims and the Risk of Negative Publicity if Our Packages Fail.***

Our packages are incorporated into a number of end products, and our business is exposed to product return and liability risks, the risk of economic damage claims and the risk of negative publicity if our packages fail.

In addition, we are exposed to the product and economic liability risks and the risk of negative publicity affecting our customers. Our sales may decline if any of our customers are sued on a product liability claim. We also may suffer a decline in sales from the negative publicity associated with such a lawsuit or with adverse public perceptions in general regarding our customers' products. Further, if our packages are delivered with impurities or defects, we could incur additional development, repair or replacement costs, suffer other economic losses and our credibility and the market's acceptance of our packages could be harmed.

***Absence of Backlog – The Lack of Contractually Committed Customer Demand May Adversely Affect Our Sales.***

Our packaging and test business does not typically operate with any material backlog. Our quarterly net sales from packaging and test services are substantially dependent upon our customers' demand in that quarter. None of our customers have committed to purchase any significant amount of packaging or test services or to provide us with binding forecasts of demand for packaging and test services for any future period, in any material amount. In addition, our customers often reduce, cancel or delay their purchases of packaging and test services for a variety of reasons including industry-wide, customer-specific and Amkor-related reasons. Since a large portion of our costs is fixed and our expense levels are based in part on our expectations of future revenues, we may not be able to adjust costs in a timely manner to compensate for any sales shortfall. If we are unable to do so, it would adversely affect our margins, operating results, financial condition and cash flows. If the decline in customer demand continues, our business, liquidity, results of operations, financial condition and cash flows will be materially and adversely affected.

***Risks Associated With International Operations – We Depend on Our Factories and Operations in China, Japan, Korea, the Philippines, Singapore and Taiwan. Many of Our Customers' and Vendors' Operations Are Also Located Outside of the U.S.***



We provide packaging and test services through our factories and other operations located in China, Japan, Korea, the Philippines, Singapore and Taiwan. Although we do not derive any revenue from, nor sell any packages in North Korea, any future increase in tensions between South Korea and North Korea which may occur, for example, an outbreak of military hostilities, could adversely affect our business, liquidity, results of operations,

**Table of Contents**

financial condition and cash flows. Moreover, many of our customers and vendors operations are located outside the U.S. The following are some of the risks inherent in doing business internationally:

changes in consumer demand resulting from deteriorating conditions in local economies;

regulatory limitations imposed by foreign governments, including limitations or taxes imposed on the payment of dividends and other payments by non-U.S. subsidiaries;

fluctuations in currency exchange rates;

political, military, civil unrest and terrorist risks;

disruptions or delays in shipments caused by customs brokers or government agencies;

changes in regulatory requirements, tariffs, customs, duties and other restrictive trade barriers or policies;

difficulties in staffing and managing foreign operations; and

potentially adverse tax consequences resulting from changes in tax laws.

***Changes in the U.S. Tax Law Regarding Earnings Of Our Subsidiaries Located Outside the U.S. Could Materially Affect Our Future Results.***

There have been proposals to change U.S. tax laws that would significantly impact how U.S. corporations are taxed on foreign earnings. We earn a substantial portion of our income in foreign countries. Although we cannot predict whether or in what form this proposed legislation will pass, if enacted it could have a material adverse impact on our liquidity, results of operations, financial condition and cash flows.

***Our Management Information Systems May Prove Inadequate We Face Risks in Connection With Our Current Project to Install a New Enterprise Resource Planning System For Our Business.***

We depend on our management information systems for many aspects of our business. Some of our key software has been developed by our own programmers, and this software may not be easily integrated with other software and systems. We are making a significant investment to implement a new enterprise resource planning system to replace many of our existing systems. We face risks in connection with our current project to install a new enterprise resource system for our business. These risks include:

we may face delays in the design and implementation of the system;

the cost of the system may exceed our plans and expectations; and

disruptions resulting from the implementation of the system may impact our ability to process transactions and delay shipments to customers, impact our results of operations or financial condition, or harm our control environment.

Our business could be materially and adversely affected if our management information systems are disrupted or if we are unable to improve, upgrade, integrate or expand upon our systems, particularly in light of our intention to continue to implement a new enterprise resource planning system over a multi-year program on a company-wide basis.

***We Face Risks Trying to Attract and Retain Qualified Employees to Support Our Operations.***

Our success depends to a significant extent upon the continued service of our key senior management and technical personnel, any of whom may be difficult to replace. Competition for qualified employees is intense, and our business could be adversely affected by the loss of the services of any of our existing key personnel, including senior management, as a result of competition or for any other reason. We evaluate our management team and engage in long-term succession planning in order to ensure orderly replacement of key personnel. We do not have employment agreements with our key employees, including senior management or other contracts that would prevent our key employees from working for our competitors in the event they cease working for us. We cannot assure you that we will be successful in these efforts or in hiring and properly training sufficient numbers of

**Table of Contents**

qualified personnel and in effectively managing our growth. Our inability to attract, retain, motivate and train qualified new personnel could have a material adverse effect on our business.

***Difficulties Consolidating and Evolving Our Operational Capabilities We Face Challenges as We Integrate Diverse Operations.***

We have experienced, and expect to continue to experience, change in the scope and complexity of our operations primarily through facility consolidations, strategic acquisitions, joint ventures and other partnering arrangements and may continue to engage in such transactions in the future. For example, each business we have acquired had, at the time of acquisition, multiple systems for managing its own production, sales, inventory and other operations. Migrating these businesses to our systems typically is a slow, expensive process requiring us to divert significant amounts of resources from multiple aspects of our operations. These changes have strained our managerial, financial, plant operations and other resources. Future consolidations and expansions may result in inefficiencies as we integrate operations and manage geographically diverse operations.

***Dependence on Materials and Equipment Suppliers Our Business May Suffer If the Cost, Quality or Supply of Materials or Equipment Changes Adversely.***

We obtain from various vendors the materials and equipment required for the packaging and test services performed by our factories. We source most of our materials, including critical materials such as leadframes, laminate substrates and gold wire, from a limited group of suppliers. Furthermore, we purchase the majority of our materials on a purchase order basis. From time to time, we enter into supply agreements, generally up to one year in duration, to guarantee supply to meet projected demand. Our business may be harmed if we cannot obtain materials and other supplies from our vendors in a timely manner, in sufficient quantities, in acceptable quality or at competitive prices.

We purchase new packaging and test equipment to maintain and expand our operations. From time to time, increased demand for new equipment may cause lead times to extend beyond those normally required by equipment vendors. For example, in the past, increased demand for equipment caused some equipment suppliers to only partially satisfy our equipment orders in the normal time frame or to increase prices during market upturns for the semiconductor industry. The unavailability of equipment or failures to deliver equipment could delay or impair our ability to meet customer orders. If we are unable to meet customer orders, we could lose potential and existing customers. Generally, we do not enter into binding, long-term equipment purchase agreements and we acquire our equipment on a purchase order basis, which exposes us to substantial risks. For example, changes in foreign currency exchange rates could result in increased prices for equipment purchased by us, which could have a material adverse effect on our results of operations.

We are a large buyer of gold and other commodity materials including substrates and copper. The prices of gold and other commodities used in our business fluctuate. Historically, we have been able to partially offset the effect of commodity price increases through price adjustments to some customers and changes in our product designs, such as shorter, thinner, gold wire and migration to copper wire. Significant price increases may adversely impact our gross margin in future quarters to the extent we are unable to pass along past or future commodity price increases to our customers.

***Loss of Customers The Loss of Certain Customers May Have a Significant Adverse Effect on Our Operations and Financial Results.***

The loss of a large customer or disruption of our strategic partnerships or other commercial arrangements may result in a decline in our sales and profitability. Although we have approximately 250 customers, we have derived and expect to continue to derive a large portion of our revenues from a small group of customers during any particular

period due in part to the concentration of market share in the semiconductor industry. Our ten largest customers together accounted for approximately 53.4%, 49.8% and 47.0% of our net sales in the years ended December 31, 2009, 2008 and 2007, respectively. In addition, a single customer accounted for greater than 10% of our net sales during 2009. No customer accounted for more than 10% of our net sales during 2008 or 2007.

**Table of Contents**

The demand for our services from each customer is directly dependent upon that customer's level of business activity, which could vary significantly from year to year. The loss of a large customer may adversely affect our sales and profitability. Our key customers typically operate in the cyclical semiconductor business and, in the past, order levels have varied significantly from period to period based on a number of factors. Our business is likely to remain subject to this variability in order levels, and we cannot assure you that these key customers or any other customers will continue to place orders with us in the future at the same levels as in past periods.

The loss of one or more of our significant customers, or reduced orders by any one of them and our inability to replace these customers or make up for such orders could reduce our profitability. For example, our facility in Iwate, Japan, is primarily dedicated to a single customer, Toshiba Corporation. We have also invested in an unconsolidated affiliate, J-Devices Corporation, for which Toshiba is the primary customer. If we were to lose Toshiba as a customer or if it were to materially reduce its business with us, it could be difficult for us to find one or more new customers to utilize the capacity, which could have a material adverse effect on our operations and financial results. In addition, we have a long term supply agreement that expires in December 2010 with IBM. If we were to lose IBM as a customer, this could have a material adverse effect on our business, liquidity, results of operations, financial condition and cash flows.

***Capital Additions We Make Substantial Capital Additions To Support the Demand Of Our Customers, Which May Adversely Affect Our Business If the Demand Of Our Customers Does Not Develop As We Expect or Is Adversely Affected.***

We make significant capital additions in order to service the demand of our customers. The amount of capital additions will depend on several factors, including the performance of our business, our assessment of future industry and customer demand, our capacity utilization levels and availability, our liquidity position and the availability of financing. Our ongoing capital addition requirements may strain our cash and short-term asset balances, and, in periods when we are expanding our capital base, we expect that depreciation expense and factory operating expenses associated with our capital additions to increase production capacity will put downward pressure on our gross margin, at least over the near term.

Furthermore, if we cannot generate or raise additional funds to pay for capital additions, particularly in some of the advanced packaging and bumping areas, as well as research and development activities, our growth prospects and future profitability may be adversely affected. Our ability to obtain external financing in the future is subject to a variety of uncertainties, including:

- our future financial condition, results of operations and cash flows;
- general market conditions for financing activities by semiconductor companies;
- volatility in fixed income, credit and equity markets; and
- economic, political and other global conditions.

The lead time needed to order, install and put into service various capital additions is often significant, and, as a result, we often need to commit to capital additions in advance of our receipt of firm orders or advance deposits based on our view of anticipated future demand with only very limited visibility. Although we seek to limit our exposure in this regard, in the past we have from time to time expended significant capital for additions for which the anticipated demand did not materialize for a variety of reasons, many of which were outside of our control. To the extent this occurs in the future, our business, liquidity, results of operations, financial condition and cash flows could be materially and adversely affected.

In addition, during periods where customer demand exceeds our capacity, customers may transfer some or all of their business to other suppliers who are able to support their needs. To the extent this occurs, our business, liquidity, results of operations, financial condition and cash flows could be materially and adversely affected.

**Table of Contents**

***Impairment Charges Any Impairment Charges Required Under U.S. GAAP May Have a Material Adverse Effect on Our Net Income.***

Under U.S. generally accepted accounting principles ( U.S. GAAP ), we review our long-lived assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Factors we consider include significant under-performance relative to expected historical or projected future operating results, significant negative industry or economic trends and our market capitalization relative to net book value. We may be required in the future to record a significant charge to earnings in our financial statements during the period in which any impairment of our long-lived assets is determined. Such charges have had and could have a significant adverse impact on our results of operations.

***Litigation Incident to Our Business Could Adversely Affect Us.***

We have been a party to various legal proceedings, including those described in Note 16 to the Consolidated Financial Statements included in this Annual Report, and may be a party to litigation in the future. If an unfavorable ruling or outcome were to occur in this or future litigation, there could be a material adverse impact on our business, liquidity, results of operations, financial condition, cash flows and the trading price of our securities.

***We Could Suffer Adverse Tax and Other Financial Consequences if Taxing Authorities Do Not Agree with Our Interpretation of Applicable Tax Laws.***

Our corporate structure and operations are based, in part, on interpretations of various tax laws, including withholding tax, compliance with tax holiday requirements, application of changes in tax law to our operations and other relevant laws of applicable taxing jurisdictions. From time to time, the taxing authorities of the relevant jurisdictions may conduct examinations of our income tax returns and other regulatory filings. We cannot assure you that the taxing authorities will agree with our interpretations. To the extent they do not agree, we may seek to enter into settlements with the taxing authorities which require significant payments or otherwise adversely affect our results of operations or financial condition. We may also appeal the taxing authorities' determinations to the appropriate governmental authorities, but we can not be sure we will prevail. If we do not prevail, we may have to make significant payments or otherwise record charges (or reduce tax assets) that adversely affect our results of operations, financial condition and cash flows.

***Rapid Technological Change Our Business Will Suffer If We Cannot Keep Up With Technological Advances in Our Industry.***

The complexity and breadth of semiconductor packaging and test services are rapidly increasing. As a result, we expect that we will need to offer more advanced package designs in order to respond to competitive industry conditions and customer requirements. Our success depends upon our ability to acquire, develop and implement new manufacturing processes and package design technologies and tools. The need to develop and maintain advanced packaging capabilities and equipment could require significant research and development and capital expenditures and acquisitions in future years. In addition, converting to new package designs or process methodologies could result in delays in producing new package types, which could adversely affect our ability to meet customer orders and adversely impact our business.

Technological advances also typically lead to rapid and significant price erosion and may make our existing packages less competitive or our existing inventories obsolete. If we cannot achieve advances in package design or obtain access to advanced package designs developed by others, our business could suffer.



***Packaging and Test Packaging and Test Processes Are Complex and Our Production Yields and Customer Relationships May Suffer from Defects in the Services We Provide.***

Semiconductor packaging and test services are complex processes that require significant technological and process expertise. The packaging process is complex and involves a number of precise steps. Defective packages primarily result from:

contaminants in the manufacturing environment;

human error;

**Table of Contents**

equipment malfunction;

changing processes to address environmental requirements;

defective raw materials; or

defective plating services.

Testing is also complex and involves sophisticated equipment and software. Similar to most software programs, these software programs are complex and may contain programming errors or bugs. The testing equipment is also subject to malfunction. In addition, the testing process is subject to operator error.

These and other factors have, from time to time, contributed to lower production yields. They may also do so in the future, particularly as we adjust our capacity or change our processing steps. In addition, we must continue to expand our offering of packages to be competitive. Our production yields on new packages typically are significantly lower than our production yields on our more established packages.

Our failure to maintain high standards or acceptable production yields, if significant and prolonged, could result in loss of customers, increased costs of production, delays, substantial amounts of returned goods and claims by customers relating thereto. Any of these problems could have a material adverse effect on our business, liquidity, results of operations, financial condition and cash flows.

In addition, in line with industry practice, new customers usually require us to pass a lengthy and rigorous qualification process that may take several months. If we fail to qualify packages with potential customers or customers, our business, results of operations, financial condition and cash flows could be adversely affected.

***Competition We Compete Against Established Competitors in the Packaging and Test Business as Well as Internal Customer Capabilities.***

The subcontracted semiconductor packaging and test market is very competitive. We face substantial competition from established packaging and test service providers primarily located in Asia, including companies with significant processing capacity, financial resources, research and development operations, marketing and other capabilities. These companies also have established relationships with many large semiconductor companies that are our current or potential customers. We also face competition from the internal capabilities and capacity of many of our current and potential IDM customers. In addition, we may in the future have to compete with companies (including semiconductor foundries) that may enter the market or offer new or emerging technologies that compete with our packages and services.

We cannot assure you that we will be able to compete successfully in the future against our existing or potential competitors or that our customers will not rely on internal sources for packaging and test services, or that our business, liquidity, results of operations, financial condition and cash flows will not be adversely affected by such increased competition.

***Environmental Regulations Future Environmental Regulations Could Place Additional Burdens on Our Manufacturing Operations.***

The semiconductor packaging process uses chemicals, materials and gases and generates byproducts that are subject to extensive governmental regulations. For example, at our foreign facilities we produce liquid waste when

semiconductor wafers are diced into chips with the aid of diamond saws, then cooled with running water. In addition, semiconductor packages have historically utilized metallic alloys containing lead (Pb) within the interconnect terminals typically referred to as leads, pins or balls. Federal, state and local regulations in the U.S., as well as international environmental regulations, impose various controls on the storage, handling, discharge and disposal of chemicals used in our production processes and on the factories we occupy and are increasingly imposing restrictions on the materials contained in semiconductor products. We may become liable under environmental laws for the cost of clean up of any disposal or release of hazardous materials arising out of our former or current operations, or otherwise as a result of the existence of hazardous materials on our properties. In such an event, we could be held liable for damages, including fines, penalties and the cost of remedial actions, and could also be subject to revocation of permits negatively affecting our operations.

**Table of Contents**

Public attention has focused on the environmental impact of semiconductor operations and the risk to neighbors of chemical releases from such operations and to the materials contained in semiconductor products. For example, the European Union's Restriction of Use of Certain Hazardous Substances Directive imposes strict restrictions on the use of lead and other hazardous substances in electrical and electronic equipment. In response to this directive, and similar laws and developing legislation in countries like China, Japan and Korea, we have implemented changes in a number of our manufacturing processes in an effort to achieve compliance across all of our package types. Complying with existing and possible future environmental laws and regulations, including laws and regulations relating to climate change, may impose upon us the need for additional capital equipment or other process requirements, restrict our ability to expand our operations, disrupt our operations, increase costs, subject us to liability or cause us to curtail our operations.

***Intellectual Property We May Become Involved in Intellectual Property Litigation.***

We maintain an active program to protect and derive value from our investment in technology and the associated intellectual property rights. Intellectual property rights that apply to our various packages and services include patents, copyrights, trade secrets and trademarks. We have filed and obtained a number of patents in the U.S. and abroad the duration of which varies depending on the jurisdiction in which the patent is filed. While our patents are an important element of our intellectual property strategy, as a whole, we are not materially dependent on any one patent or any one technology. The process of seeking patent protection takes a long time and is expensive. There can be no assurance that patents will issue from pending or future applications or that, if patents are issued, the rights granted under the patents will provide us with meaningful protection or any commercial advantage. Any patents we do obtain may be challenged, invalidated or circumvented and may not provide meaningful protection or other commercial advantage to us.

The semiconductor industry is characterized by frequent claims regarding patent and other intellectual property rights. If any third party makes an enforceable infringement claim against us or our customers, we could be required to:

- discontinue the use of certain processes;
- cease to provide the services at issue;
- pay substantial damages;
- develop non-infringing technologies; or
- acquire licenses to the technology we had allegedly infringed.

Some of our technologies are not covered by any patent or patent application. The confidentiality agreements on which we rely to protect these technologies may be breached and may not be adequate to protect our proprietary technologies. There can be no assurance that other countries in which we market our services will protect our intellectual property rights to the same extent as the U.S.

Our competitors may develop, patent or gain access to know-how and technology similar to our own. In addition, many of our patents are subject to cross licenses, several of which are with our competitors.

We may need to enforce our patents or other intellectual property rights, including our rights under patent and intellectual property licenses with third parties, or defend ourselves against claimed infringement of the rights of others through litigation, which could result in substantial cost and diversion of our resources. Furthermore, if we fail to obtain necessary licenses, our business could suffer. We have been involved in legal proceedings involving the

acquisition and license of intellectual property rights, the enforcement of our existing intellectual property rights or the enforcement of the intellectual property rights of others, including the arbitration proceeding filed against Tessera, Inc., which is described in more detail in Note 16 to the Consolidated Financial Statements. Unfavorable outcomes in any litigation matters involving intellectual property could result in significant liabilities and could have a material adverse effect on our business, liquidity, results of operations, financial condition and cash flows. The potential impact from the legal proceedings referred to in this report on our results of operations, financial condition and cash flows could change in the future.

**Table of Contents**

***Fire, Flood or Other Calamity With Our Operations Conducted in a Limited Number of Facilities, a Fire, Flood or Other Calamity at one of Our Facilities Could Adversely Affect Us.***

We conduct our packaging and test operations at a limited number of facilities. Significant damage or other impediments to any of these facilities, whether as a result of fire, weather, the outbreak of infectious diseases (such as SARs or flu), civil strife, industrial strikes, breakdowns of equipment, difficulties or delays in obtaining materials and equipment, natural disasters, terrorist incidents, industrial accidents or other causes could temporarily disrupt or even shut down our operations, which would have a material adverse effect on our business, financial condition and results of operations. In the event of such a disruption or shutdown, we may be unable to reallocate production to other facilities in a timely or cost-effective manner (if at all) and may not have sufficient capacity to service customer demands in our other facilities. For example, our operations in Asia are vulnerable to regional typhoons that can bring with them destructive winds and torrential rains, which could in turn cause plant closures and transportation interruptions. In addition, some of the processes that we utilize in our operations place us at risk of fire and other damage. For example, highly flammable gases are used in the preparation of wafers holding semiconductor devices for flip chip packaging. While we maintain insurance policies for various types of property, casualty and other risks, we do not carry insurance for all the above referred risks and with regard to the insurance we do maintain, we cannot assure you that it would be sufficient to cover all of our potential losses.

***Continued Control By Existing Stockholders Mr. James J. Kim and Members of His Family Can Substantially Control The Outcome of All Matters Requiring Stockholder Approval.***

As of December 31, 2009, Mr. James J. Kim, our Executive Chairman of the Board of Directors, members of Mr. Kim's immediate family and affiliates beneficially owned approximately 56% of our outstanding common stock. This percentage includes beneficial ownership of the securities underlying \$100 million of our 6.25% convertible subordinated notes due 2013 and \$150 million of our 6.0% convertible senior subordinated notes due 2014. Subject to certain requirements imposed by voting agreements that the Kim family vote in a neutral manner any shares issued upon conversion of their convertible notes, Mr. James J. Kim and his family and affiliates, acting together, have the ability to effectively determine matters (other than interested party transactions) submitted for approval by our stockholders by voting their shares, including the election of all of the members of our Board of Directors. There is also the potential, through the election of members of our Board of Directors, that Mr. Kim's family could substantially influence matters decided upon by the Board of Directors. This concentration of ownership may also have the effect of impeding a merger, consolidation, takeover or other business consolidation involving us, or discouraging a potential acquirer from making a tender offer for our shares, and could also negatively affect our stock's market price or decrease any premium over market price that an acquirer might otherwise pay.

**Item 1B. *Unresolved Staff Comments***

None.

**Table of Contents****Item 2. Properties**

We provide packaging and test services through our factories in China, Japan, Korea, the Philippines, Singapore, Taiwan and the U.S. The size, location and manufacturing services provided by each of our factories are set forth in the table below.

<b>Location</b>	<b>Approximate Factory Size (Square Feet)</b>	<b>Services</b>
<i>Korea</i>		
Seoul, Korea(1)	698,000	Packaging services; package and process development
Pupyong, Korea(1)	404,000	Packaging and test services
Kwangju, Korea(1)	907,000	Packaging and test services
<i>Philippines</i>		
Muntinlupa, Philippines(2)	749,000	Packaging and test services; package and process development
Province of Laguna, Philippines(2)	625,000	Packaging and test services
<i>Taiwan</i>		
Lung Tan, Taiwan(1)	417,500	Packaging and test services
Hsinchu, Taiwan(1)	426,000	Packaging and test services; wafer bump services
<i>China</i>		
Shanghai, China(3)	1,123,000	Packaging and test services
<i>Japan</i>		
Kitakami, Japan(4)	211,000	Packaging and test services
<i>Singapore</i>		
Science Park, Singapore(5)	165,000	Test services
<i>United States</i>		
Chandler, AZ(1)	2,000	Test process development

(1) Owned facility and land.

(2) As a result of foreign ownership restrictions in the Philippines, the land associated with our Philippine factories is leased from realty companies in which we own a 40% interest. We own buildings comprising 1,223,000 square feet and lease the remaining 151,000 square feet from one of the aforementioned realty companies.

(3) We own buildings comprising 953,000 square feet, of which approximately 450,000 square feet were facilitated with a clean room manufacturing environment and equipment as of December 31, 2009. The remaining 170,000 square feet and all land is leased.

(4) Leased facility.

(5) Owned facility. Land is leased. The Singapore bump and test services are being consolidated into our other facilities through 2010. See Note 20 to our Consolidated Financial Statements included in this Annual Report.

We believe that our existing properties are in good condition and suitable for the conduct of our business.

Our principal executive office and operational headquarters is located in Chandler, Arizona. In addition to executive staff, the Chandler, Arizona campus houses sales and customer service for the southwest region, product management, finance, information systems, planning and marketing. Our marketing and sales office locations include sites in the U.S. (Chandler, Arizona; Irvine, San Diego and Santa Clara, California; Boston, Massachusetts; Greensboro, North Carolina; and Dallas, Texas), China, France, Japan, Korea, the Philippines, Singapore and Taiwan. We also perform research and development activities in Raleigh-Durham, North Carolina.

**Item 3. *Legal Proceedings***

For a discussion of Legal Proceedings, see Note 16 Commitments and Contingencies to our Consolidated Financial Statements in Part II, Item 8 of this Annual Report.

**Item 4. *Submission of Matters to a Vote of Security Holders***

None.



**Table of Contents****PART II****Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*****LISTING ON THE NASDAQ GLOBAL SELECT MARKET**

Our common stock is traded on the NASDAQ Global Select Market under the symbol AMKR. The following table sets forth, for the periods indicated, the high and low closing price per share of our common stock as quoted on the NASDAQ Global Select Market.

	<b>High</b>	<b>Low</b>
<b>2009</b>		
First Quarter	\$ 3.11	\$ 1.60
Second Quarter	4.97	2.82
Third Quarter	7.47	4.27
Fourth Quarter	7.62	5.48
<b>2008</b>		
First Quarter	\$ 12.38	\$ 6.55
Second Quarter	12.36	8.68
Third Quarter	10.66	6.31
Fourth Quarter	6.22	1.55

There were approximately 173 holders of record of our common stock as of January 29, 2010.

**DIVIDEND POLICY**

Since our public offering in 1998, we have never paid a dividend to our stockholders and we do not have any present plans for doing so. In addition, our secured bank debt agreements and the indentures governing our senior and senior subordinated notes restrict our ability to pay dividends. Refer to the Liquidity and Capital Resources Section in Item 7 Management's Discussion and Analysis.

**RECENT SALES OF UNREGISTERED SECURITIES**

None.

**EQUITY COMPENSATION PLANS**

The information required by this item regarding equity compensation plans is set forth in Item 12 Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters of this Annual Report on Form 10-K.

**PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS**

None.



**Table of Contents**

**PERFORMANCE GRAPH(1)**

**COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN\***

Among Amkor Technology, Inc., The S&P 500 Index  
And The PHLX Semiconductor Index

\* \$100 invested on 12/31/04 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

Copyright © 2010 S&P, a division of The McGraw-Hill Companies Inc. All rights reserved.

Copyright© 2010 Dow Jones & Co. All rights reserved.

- (1) The preceding Stock Performance Graph is not deemed filed with the Securities and Exchange Commission and shall not be incorporated by reference in any of our filings under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

**Table of Contents****Item 6. Selected Consolidated Financial Data**

The following selected consolidated financial data as of December 31, 2009 and 2008 and for the years ended December 31, 2009, 2008 and 2007 have been derived from our audited Consolidated Financial Statements included in this Annual Report. The following selected consolidated financial data for the years ended December, 31, 2006 and 2005, and as of December 31, 2007, 2006 and 2005, have been derived from audited financial statements not included herein and, where applicable, such data was recast for the retrospective application of new accounting guidance for noncontrolling interests in a consolidated subsidiary, which we became subject to beginning January 1, 2009. You should read the selected consolidated financial data in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations and our Consolidated Financial Statements, both of which are included in this Annual Report.

The summary consolidated financial data below reflects on a historical basis our 2006 acquisition of substantially all of the remaining 40% interest in Unitive Semiconductor Taiwan ( UST ) that we did not previously own.

**SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA**

	<b>2009</b>	<b>For the Year Ended December 31,</b>			<b>2005</b>
		<b>2008</b>	<b>2007</b>	<b>2006</b>	
		<b>(In thousands, except per share data)</b>			
<b>Statement of Operations Data:</b>					
Net sales	\$ 2,179,109	\$ 2,658,602	\$ 2,739,445	\$ 2,728,560	\$ 2,099,949
Cost of sales(a)	1,698,713	2,096,864	2,057,572	2,053,600	1,744,178
Gross profit	480,396	561,738	681,873	674,960	355,771
Operating expenses:					
Selling, general and administrative(b)	210,907	251,756	254,365	251,142	293,319
Research and development	44,453	56,227	41,650	38,735	37,347
Goodwill impairment(c)		671,117			
Gain on sale of real estate and specialty test operations(d)	(281)	(9,856)	(4,833)		(4,408)
Total operating expenses	255,079	969,244	291,182	289,877	326,258
Operating income (loss)	225,317	(407,506)	390,691	385,083	29,513
Other expense:					
Interest expense	102,396	118,729	133,896	161,682	170,608
Interest expense, related party	13,000	6,250	6,250	6,477	521
Interest income	(2,367)	(8,749)	(9,797)	(6,875)	(5,257)
Foreign currency loss (gain)(e)	3,339	(61,057)	8,961	13,255	9,318
(Gain) loss on debt retirement, net(f)	(15,088)	(35,987)	15,876	27,389	(253)
Equity in (earnings) losses of unconsolidated affiliates(g)	(2,373)				55
Other (income) expense, net	(113)	(1,004)	668	661	(191)

Edgar Filing: AMKOR TECHNOLOGY INC - Form 10-K

Total other expense, net	98,794	18,182	155,854	202,589	174,801
Income (loss) before income taxes	126,523	(425,688)	234,837	182,494	(145,288)
Income tax (benefit) expense(h)	(29,760)	31,788	12,597	11,208	(5,551)
Net income (loss)	156,283	(457,476)	222,240	171,286	(139,737)
Net (income) loss attributable to noncontrolling interests	(303)	781	(2,376)	(1,202)	2,502
Net income (loss) attributable to Amkor	\$ 155,980	\$ (456,695)	\$ 219,864	\$ 170,084	\$ (137,235)
Net income (loss) attributable to Amkor per common share:					
Basic	\$ 0.85	\$ (2.50)	\$ 1.22	\$ 0.96	\$ (0.78)
Diluted	\$ 0.67	\$ (2.50)	\$ 1.11	\$ 0.90	\$ (0.78)
Shares used in computing per common share amounts:					
Basic	183,067	182,734	180,597	177,682	176,385
Diluted	263,379	182,734	208,767	199,556	176,385

**Table of Contents**

**For the Year Ended December 31,**  
**2009      2008      2007      2006      2005**  
(In thousands, except per share data)

**Other Financial Data:**

Depreciation and amortization	\$ 305,510	\$ 309,920	\$ 283,267	\$ 273,845	\$ 248,637
Purchases of property, plant and equipment	173,496	386,239	236,240	315,873	295,943

**Year Ended December 31,**  
**2009      2008      2007      2006      2005**  
(In thousands)

**Balance Sheet Data**

Cash and cash equivalents	\$ 395,406	\$ 424,316	\$ 410,070	\$ 244,694	\$ 206,575
Working capital	327,088	306,174	310,341	215,095	131,362
Total assets	2,432,909	2,383,993	3,192,606	3,041,264	2,955,091
Total long-term debt	1,345,241	1,438,751	1,611,570	1,819,901	1,956,247
Total debt, including short-term borrowings and current portion of long-term debt	1,434,185	1,493,360	1,764,059	2,005,315	2,140,636
Additional paid-in capital	1,500,246	1,496,976	1,482,186	1,441,194	1,431,543
Accumulated deficit	(1,122,241)	(1,278,221)	(821,526)	(1,041,390)	(1,211,474)
Total Amkor stockholders equity	383,209	237,139	654,619	393,920	223,905

- (a) During 2008, we recorded a charge of \$61.4 million for unpaid royalties relating to the resolution of a patent license dispute, of which \$49.0 million related to royalties for periods prior to 2008.
- (b) During 2006 and 2005, we recorded \$1.0 million and \$50.0 million respectively, related to epoxy mold compound litigation.
- (c) At December 31, 2008, we recorded a non-cash charge of \$671.1 million to write off our remaining goodwill.
- (d) During 2009, we sold land and dormitory buildings in Korea and recorded a gain of \$0.3 million. During 2008, we sold land and a warehouse in Korea and recorded a gain of \$9.9 million. In 2007, we recorded a gain of \$3.1 million in connection with the sale of real property in Korea used for administrative purposes. During 2005, we recognized a gain of \$4.4 million on the sale of our Wichita, Kansas specialty test operation and in 2007, we recognized an additional \$1.7 million gain related to an earn-out provision.
- (e) We recognize foreign currency (gains) losses due to the remeasurement of certain of our foreign currency denominated monetary assets and liabilities. During 2008, the net foreign currency gain of \$61.1 million is primarily attributable to the significant depreciation of the Korean won and the impact on the remeasurement of our Korean severance obligation.
- (f)

During 2009, we recorded a net gain of \$15.1 million related to the repurchase of an aggregate \$289.3 million principal amount of our 7.125% Senior Notes and 2.5% Convertible Senior Subordinated Notes due in 2011 and our 7.75% Senior Notes due in 2013. During 2008, we recorded a gain of \$36.0 million related to the repurchase of an aggregate \$118.3 million principal amount of our 7.125% senior notes and 2.5% convertible senior subordinated notes due 2011. In 2007, we recorded a loss of \$15.9 million related to the refinancing of a second lien term loan. During 2006, we recorded a loss of \$27.4 million related to the tender offer to purchase \$352.3 million principal amount of our 9.25% senior notes due February 2008 and the repurchase of \$178.1 million of our 10.5% senior subordinated notes due May 2009.

- (g) During 2009, we made a 30% equity investment in J-Devices, which is accounted for using the equity method, and recognized equity in earnings of \$2.4 million.
- (h) Generally, our effective tax rate is substantially below the U.S. federal tax rate of 35% because we have experienced taxable losses in the U.S. and our income is taxed in foreign jurisdictions where we benefit from tax holidays or tax rates lower than the U.S. statutory rate. In 2009, a \$25.6 million benefit for the release of a valuation allowance in Korea is included in the income tax benefit. In 2008, the \$671.1 million goodwill impairment charge did not have a significant income tax benefit. Also, the 2008 income tax provision included a charge of \$8.3 million for the establishment of a valuation allowance in Japan.

**Table of Contents****Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations***

This report contains forward-looking statements within the meaning of the federal securities laws, including but not limited to statements regarding: (1) the amount and timing of our expected capital investments and focus on customer requirements, investments in technology advancements and cost reduction programs, (2) expectations regarding increased labor and other manufacturing costs in support of higher customer demand, (3) our ability to fund our operating activities for the next twelve months, (4) the effect of capacity utilization rates on our costs and gross margin, (5) the expiration of tax holidays in foreign jurisdictions in which we operate and expectations regarding our effective tax rate, (6) the release of valuation allowances related to taxes in the future, (7) the expected use of future cash flows, if any, for the expansion of our business, capital expenditures and the repayment of debt, (8) expected workforce reductions and related severance charges in connection with our plan to exit manufacturing operations in Singapore, (9) our repurchase of outstanding debt in the future, (10) payment of dividends, (11) compliance with our covenants, (12) expected contributions to defined benefit pension plans, (13) liability for unrecognized tax benefits, (14) sufficiency of accruals for potential additional taxes or related interest in connection with examination by tax authorities, (15) the effect of changes in the mix of income from foreign sales, expiration of tax holidays and changes in tax laws on future tax rates, (16) the effect of foreign currency exchange rate exposure on our financial results, and (17) other statements that are not historical facts. In some cases, you can identify forward-looking statements by terminology such as *may*, *will*, *should*, *expects*, *plans*, *anticipates*, *believes*, *estimates*, *predicts*, *potentially*, *intend* or the negative of these terms or other comparable terminology. Because such statements include risks and uncertainties, actual results may differ materially from those anticipated in such forward-looking statements as a result of certain factors, including those set forth in the following discussion as well as in Item 1A *Risk Factors* of this Annual Report. The following discussion provides information and analysis of our results of operations for the three years ended December 31, 2009 and our liquidity and capital resources. You should read the following discussion in conjunction with Item 1, *Business*, Item 6 *Selected Consolidated Financial Data* and Item 8 *Financial Statements and Supplemental Data* in this Annual Report as well as other reports we file with the SEC.

**Overview**

Amkor is one of the world's leading subcontractors of semiconductor packaging and test services. Packaging and test are integral steps in the process of manufacturing semiconductor devices. The manufacturing process begins with silicon wafers and involves the fabrication of electronic circuitry into complex patterns, thus creating large numbers of individual chips on the wafers. The fabricated wafers are then probe tested to ensure the individual devices meet electrical specifications. The packaging process creates an electrical interconnect between the semiconductor chip and the system board. In packaging, fabricated semiconductor wafers are separated into individual chips. These chips are typically attached through wire bond or wafer bump technologies to a substrate or leadframe and then encased in a protective material. In the case of an advanced wafer level package, the package is assembled on the surface of a wafer.

Our packages are designed for application specific body size and electrical connection requirements to provide optimal electrical connectivity and thermal performance. The packaged chips are then tested using sophisticated equipment to ensure that each packaged chip meets its design and performance specifications. Increasingly, packages are custom designed for specific chips and specific end-market applications. We are able to provide turnkey assembly and test solutions including semiconductor wafer bump, wafer probe, wafer backgrind, package design, assembly, test and drop shipment services.

The financial crisis and global recession that began in 2008 caused a significant decrease in demand for our services during the first half of 2009. During the second half of 2009, the semiconductor industry began to recover from the



recent cyclical downturn. Our unit demand increased to 2.4 billion units during the three months ended December 31, 2009 compared to 2.3 billion units during the three months ended September 30, 2009 and 1.7 billion units during the three months ended December 31, 2008 principally driven by strength of leadframe wire bond packaging services.

**Table of Contents**

Our annual net sales decreased \$479.5 million or 18.0% to \$2,179.1 million in 2009 from \$2,658.6 million in 2008, primarily due to the general decline in demand for our services and inventory management efforts by our customers as a result of the global economic recession and weakness in consumer spending.

Gross margin for 2009 of 22.0% was up from 21.1% in 2008. Included in our cost of sales for 2008 was a charge of \$61.4 million for royalties relating to a resolution of a patent license dispute which reduced our gross margin by two percentage points for 2008. In addition, during 2009 we recorded a charge of \$16.9 million relating to workforce reduction programs compared to \$12.2 million during 2008.

Net income for 2009 was \$156.0 million, or \$0.67 per diluted share, compared with a net loss in 2008 of \$456.7 million, or \$2.50 per share. Included in the 2008 net loss was the charge of \$671.1 million, or \$3.67 per share, for goodwill impairment as well as a \$64.7 million charge relating to the accrued and unpaid royalties and interest for the resolution of a patent license dispute. The net loss for 2008 includes \$61.1 million net foreign currency gain from the remeasurement of certain subsidiaries' balance sheet items compared to a net foreign currency loss of \$3.3 million for 2009. The income tax benefit of \$29.8 million for 2009 is primarily attributable to the release of a tax valuation allowance at our subsidiary in Korea compared to income tax expense of \$31.8 million in 2008 attributable to profits in our taxable foreign jurisdictions as well as the establishment of a valuation allowance against certain deferred tax assets in Japan.

In 2009, our capital additions totaled \$197.7 million or 9% of net sales. Our 2009 capital additions are lower than our 2008 capital additions of \$341.7 million as a result of the decline in sales due to the recession. We expect our 2010 capital additions to be approximately 14% of net sales. Capital additions are generally focused on specific customer requirements, technology advancements and cost reduction programs and in 2010 we are planning to expand our capacity in support of customer demand for a number of advanced packaging and test areas, including flip chip and wire bond chip scale packaging and wafer bumping.

As part of our focus on generating cash flow and driving greater factory and administrative efficiencies, beginning in 2008 and continuing into 2009, we implemented cost reduction measures that included lowering executive and other employee compensation, reducing employee and contractor headcount, and shortening work weeks. Some costs previously reduced through cost reduction measures, such as labor and other manufacturing costs, have increased in the three months ended December 31, 2009 and are expected to increase in support of higher levels of customer demand.

We generated \$88.2 million of free cash flow in the year ended December 31, 2009, decreasing \$131.4 million from the prior year. Cash provided by operating activities was \$261.7 million for the year ended December 31, 2009, as compared with \$605.8 million for the year ended December 31, 2008. The decrease in 2009 is primarily due to reduced business levels due to the recession and approximately \$160.8 million of payments made relating to the resolution of a patent license dispute and employee benefit and separation payments. This decrease in cash provided by operating activities is partially offset by decreased capital additions. We define free cash flow as net cash provided by operating activities less investing activities related to the acquisition of property, plant and equipment. Free cash flow is not defined by U.S. generally accepted accounting principles ( U.S. GAAP ) and a reconciliation of free cash flow to net cash provided by operating activities is set forth under the caption Cash Flows below. Please see Liquidity and Capital Resources and Cash Flows below for a further analysis of the change in our balance sheet and cash flows during the year ended December 31, 2009.

We believe our financial position and liquidity are sufficient to fund our operating activities for at least the next twelve months. In April 2009, we amended our \$100.0 million first lien revolving credit facility which, among other things, extended the maturity date from November 2009 to April 2013. Also in April 2009, we issued \$250.0 million of our 6.0% convertible senior subordinated notes due April 2014 (the 2014 Notes ). In the year ended December 31,

2009, we repurchased in open market transactions \$156.6 million in aggregate principal amount of our 7.125% senior notes due March 2011, \$69.0 million in aggregate principal amount of our 2.5% convertible senior subordinated notes due May 2011, and \$63.7 million in aggregate principal amount of our 7.75% senior notes due May 2013 using \$244.5 million of net proceeds from issuance of the 2014 Notes and \$27.4 million of cash on hand. At December 31, 2009, our cash and cash equivalents totaled approximately \$395.4 million with an aggregate of \$88.9 million of debt due through the end of 2010. In 2011, the remaining \$96.1 million aggregate principal amount of our 2.5% convertible senior subordinated notes and 7.125% senior notes mature.

**Table of Contents****Results of Operations**

The following table sets forth certain operating data as a percentage of net sales for the periods indicated:

	<b>Year Ended December 31,</b>		
	<b>2009</b>	<b>2008</b>	<b>2007</b>
Net sales	100.0%	100.0%	100.0%
Gross profit	22.0%	21.1%	