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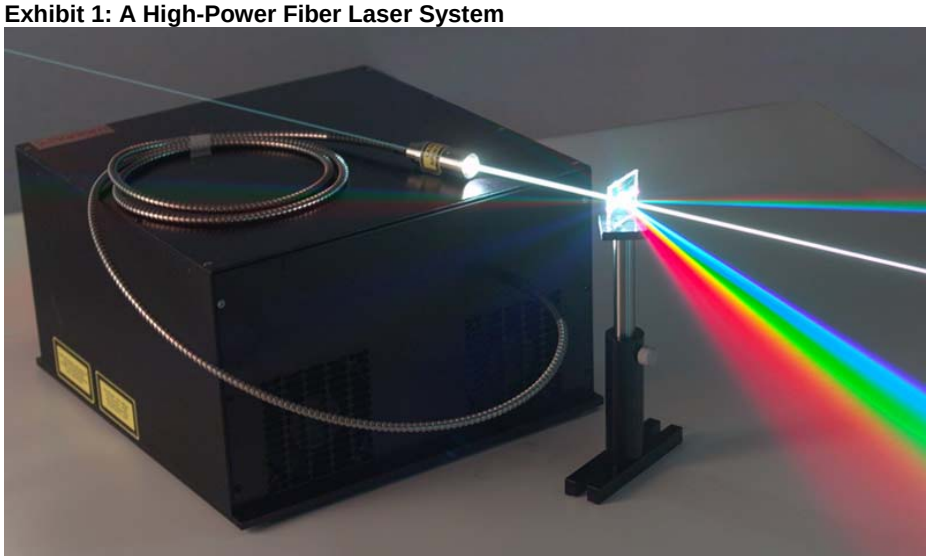
Throwing Some Light on Lasers

Enhancing Materials Processing through Lasers

Since their development in 1960, lasers have slowly but steadily found their application in various industries ranging from manufacturing, automotive, medical, research, defense, consumer electronics, semiconductors and communications. Lasers provide a flexible, non-contact and high-speed way to process and treat various materials. Additionally, they are widely used to transmit large volumes of data in optical communications. Materials processing has been a key market to adopt lasers for precision cutting of industrial components, welding of automotive parts, marking of pharmaceutical packaging, and numerous other applications. Lasers provide a better and more cost-effective solution compared to traditional non-laser technologies.

While adoption of lasers has been growing at a fast clip, we believe we are still in the early stages of penetration in manufacturing-related applications. With continued replacement of traditional materials processing techniques, we see strong future growth in companies levered to lasers. **II-VI Inc.** and **IPG Photonics Corp.** are two Advanced Materials companies within our universe that are enabling leading-edge laser technology with strong financial performance. While II-VI Inc. is the supplier of laser optics components used as consumables in laser systems, IPG Photonics Corp. is an enabler of fiber lasers that are a faster growing sub-segment of the overall laser market. Fiber lasers are a new generation of lasers enabling higher flexibility, ease of use, lower energy consumption and form factor advantages over traditional lasers (Exhibit 1). While fiber lasers will likely grow at a faster pace than the overall laser market, we expect strong growth in the market as laser-based systems continue to replace non-laser-based systems. As a leading provider of advanced materials-based laser optic components and a vertically integrated player in the high-growth fiber laser sub-segments of the laser market, we believe both II-VI Inc. and IPG Photonics Corp. are very well positioned for strong long term growth.

Exhibit 1: A High-Power Fiber Laser System



Source: Fianium, a Fiber Laser Company

In This Issue:

INDUSTRY UPDATE

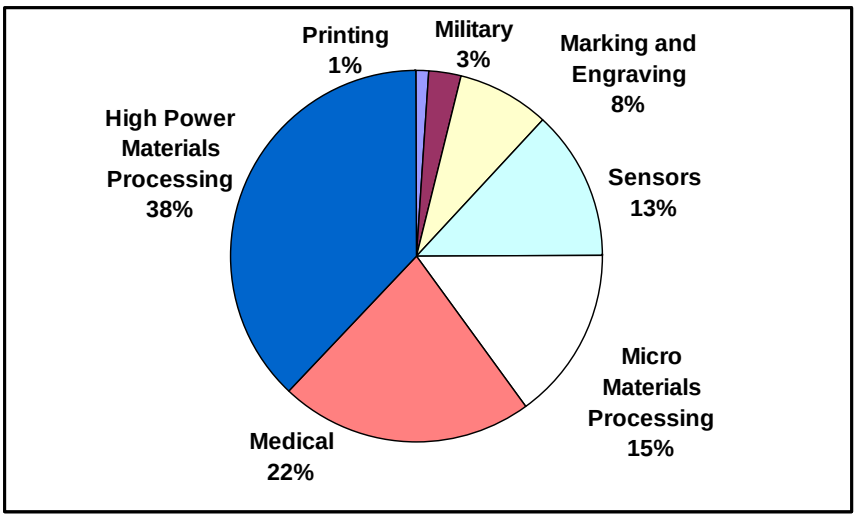
UNIQUE PROPERTIES OF LASERS PRESENT OUTSTANDING MATERIALS PROCESSING ADVANTAGES

Unique Properties of Lasers Ideally Suited for Advanced Materials Processing

A laser (acronym for Light Amplification by Stimulated Emission of Radiation) is generally evident as a beam of light but, for the most part, there are some key differences that make lasers very different from a regular source of light. In most cases, lasers are "coherent", which implies the light source is made up of in-step waves of identical frequency and phase, while a typical light source emits incoherent light beams of random phase varying with time and position. Additionally, lasers provide a narrow and low-divergence beam of light that can be manipulated with lenses or within a fiber. The coherent and non-divergent nature of lasers enables them to travel very long distances with little distortion, while being able to focus on a very small spot.

Given these unique properties, lasers have been finding their growing adoption in a range of applications including materials processing, test and measurement, scientific research, defense, microelectronics, biomedicine, environmental science, avionics, entertainment and telecommunications. An approximate breakdown of laser sales into various applications is shown in Exhibit 2.

Exhibit 2: End Market Breakout of Lasers by Application



Source: IPGP Investor Presentation and D.A. Davidson Estimates

Clearly, materials processing makes up almost 60% of the end market demand for lasers. We categorize materials processing under three key sub-segments; laser marking/engraving; laser welding; and laser cutting. Given the materials focus of our investment universe, and the fact that a majority of revenues from both our investment ideas in the laser space (II-VI Inc. and IPG Photonics Corp.) are driven by materials processing, these are the applications we will primarily focus on.

PENETRATION HAS BEEN GROWING INTO CUTTING, WELDING, MARKING AND MANY OTHERS

Replacing Older Technology in Cutting, Welding and Marking

We believe there are significant growth opportunities for the adoption of lasers in general materials processing. Laser technology offers a number of advantages over more traditional machining methods, such as mechanical and water-jet cutting and electric arc welding. In manufacturing, lasers are now being used for cutting, bending, welding, marking and engraving. Recent advances in technology have resulted in considerable improvements in efficiency, as well as the quality and control of the laser beam. For example, sensitive laser ablation can be achieved with very little unwanted heating effects by pulsing very high-power lasers. There is almost no limit to the cutting path of a laser as the movement of the laser point can take place in any direction. Small diameter holes that can't be made with other machining processes can easily and quickly be done with a laser. As there is no mechanical force needed, even very fragile parts can be cut with little or no support. Additionally, materials that can't be machined by other means because of lack of conductivity, abrasiveness, or hardness can usually be cut using a laser.

- **Marking and Engraving Applications**. As manufacturing processes get automated, and the need for part traceability and identification becomes critical to ascertain quality and

problem identification, there has been a growing demand for marking and engraving tools. Laser marking or engraving is a computer-driven, environmentally friendly alternative to silk screening, pad printing, stamping, mechanical engraving, chemical etching, and many other costly, lower quality processes. The combination of speed, performance and versatility of high-speed non-contact laser systems can't be matched by any other marking technique. As a result, laser marking and engraving has been increasing manufacturers' production speeds while lowering costs as they apply computer-generated images (bar codes, labeling equipment, serial numbers, logos etc.) to a wide variety of metallic and nonmetallic materials. Laser engraving is similar to marking but forms deeper grooves in the material.

- **Welding Applications.** Welding is a process where materials are heated to a molten state and fused/joined together. Lasers generate light energy that can be absorbed into materials and converted to heat energy. Given the coherent (non-divergent) nature and smaller spot size of a laser beam, the energy can be transmitted and focused on a very small and precise point. As a result, laser welding offers several important advantages over conventional welding technology as it is non-contact, easy to automate, and provides high process speeds. The small spot size and lower heating during laser welding results in narrow and high quality welds. Unlike typical electric arc welding where a finishing operation is required to remove the excess material and clean up the welded joint, laser welding generally requires little or no post-processing.

- **Cutting Applications.** Laser-based cutting technology has several advantages over traditional mechanical and water-jet technologies. Laser cutting is fast, flexible, and precise, and can be used to cut complex contours on flat, tubular or three-dimensional materials. A mechanical saw degrades and wears over time, which changes the cutting parameters, but laser beams don't wear down and, as a result, lead to consistently high precision cutting. Laser cutting produces a significantly lower amount of heating and is a non-contact process (no mechanical force required). These features reduce the warping effect on materials leading to higher control. Additionally, a laser source can be programmed to process many different types of materials such as steel, aluminum, brass, copper, glass, ceramic and plastic at various thicknesses, leading to higher flexibility.

Some key advantages of lasers over traditional machine tools are indicated in Exhibit 3.

Exhibit 3: Comparison of Leading Machine Tool Technology

	PUNCHING	WATER-JET	LASER CUTTING
Mechanical Contact	Yes	No	No
Accessibility	Limited	Medium to high	High
Assisting Medium	None	Water/abrasives	Fiber/gas
Heat input	None	None	Low in defined zone
Part complexity	Low	Medium to high	Medium to high
Automation ability	Low	Medium	High
After treatment	Deburning	Drying after rinsing	None

Source: Industrial Laser Solutions and D.A. Davidson & Co.

While it is hard to pinpoint the exact opportunity from specific welding, cutting and marking applications for lasers, a broader approach may provide some insight. We believe the size of the overall machine tool market was approximately $55 billion in 2008, of which lasers for manufacturing made up close to $1.5 billion, so lasers have penetrated less than 3% of the overall market thus far. While we realize that not every machine tool would use lasers in the future, at these levels, we believe adoption has a lot of room to grow.

Several New Applications are Emerging

In early 2009, IPGP introduced two new green fiber lasers that will allow it to enter new markets and applications such as solar/photovoltaic processing, biomedical, resistor trimming and marking of transparent materials. The company estimates the market opportunity for green lasers to be about $150 million.

A significant amount of work has been put into the pico-projector technology, which uses micro-electro-mechanical systems (MEMS) to downsize a digital projector to a palm-sized battery-powered unit such as a cellular phone. Pico-projectors use red, blue and green lasers to project large, bright images from displays on handheld devices, but progress has been held back by green laser manufacturers who have been unable to deliver production volumes at a

reasonable price. With several new players now starting to build capacity for green lasers, this projection technology may be poised for growth.

On the personal care front, handheld hair removal laser systems are now being sold in the market that make it possible to get the same hair-free results in the comfort and privacy of one's home, which was previously available only at the doctor's office.

The photovoltaics (solar) industry has also been a quick adopter of laser technologies as it enables efficiency improvements consistent with high throughput at low cost - key drivers for higher adoption. Lasers are now being used for edge isolation, scribing and cutting of solar wafers.

On the defense front, lasers are being applied to directed energy weapons, where a large amount of stored energy is transmitted from the weapon to the target in order to destroy it. These weapons have the unique capability to attack targets at the speed of light which will make them significantly better than traditional ballistic weapons.

LASERS ARE TYPICALLY CHARACTERIZED BY THE GAIN MEDIUM OR POWER LEVEL

Broad Classification of Lasers

Typically, the method of stimulation and medium of amplification are the key parameters that define the type of laser.

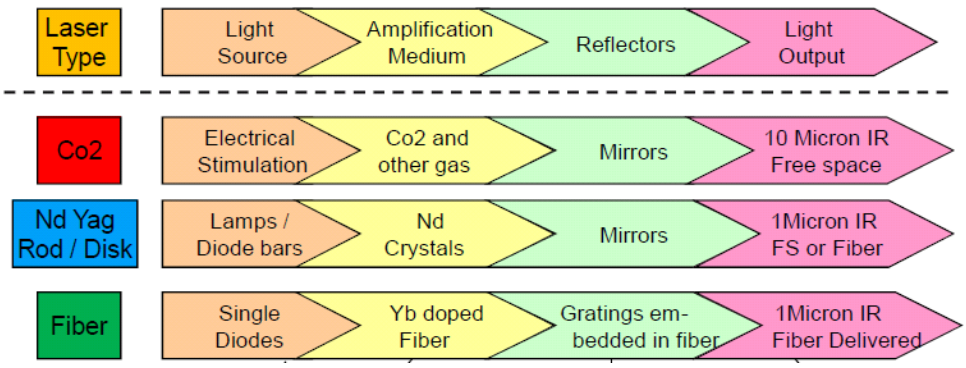
- **Gas Lasers**. A gas laser is a laser in which an electric current is discharged through a gas. Some of the typical gas lasers are Helium-Neon, Argon, and Carbon Dioxide. Depending upon the nature of their laser-active species, gas lasers could further be characterized as neutral atom gas lasers such as helium-neon lasers, ion lasers that use free ions such as argon ion and krypton, and molecular gas lasers that use gas molecules such as carbon dioxide and carbon monoxide.

- **Solid State/Semiconductor Lasers**. A solid-state laser is a laser that uses a gain medium that is a solid, rather than a liquid or gas. The amplification medium in a solid-state laser is based on crystals or glasses doped with rare-earth or transition metal ions. The stimulation typically takes place with discharge lamps or laser diodes. Semiconductor-based lasers are also solid-state lasers but are sometimes characterized as a separate class.

- **Fiber Lasers**. A fiber laser is a laser in which the active gain medium is an optical glass fiber doped with rare-earth elements or laser active ions. Whereas the first fiber lasers could deliver only a few milliwatts of output power, there have been rapid developments in the technology that have lead to high-power fiber lasers with output powers of tens or thousands of watts. Additionally, fiber lasers have been able to achieve these extremely high output powers with good beam quality while offering users a choice of wavelengths to select from, giving them more flexibility. As a result, fiber laser technology now competes strongly with other high-power laser technologies.

The broad classification of source, amplification medium, and output/delivery mechanism of various laser types is schematically depicted in Exhibit 4.

Exhibit 4: Types of Lasers



Source: IPGP Investor Presentation

Laser Types and Applications by Power

There is no hard and fast demarcation for the characterization of lasers based on power. Some characterize lasers into three broad categories based on their power level: Lasers with power levels of less than 100 watts are called low-power lasers; lasers with power levels of 100 watts to 1000 watts are typically characterized as medium power lasers; and lasers with 1,000 watts or higher power levels are characterized as high-power. Some simplify the characterization into just two types of lasers: high-power and low-power. All these lasers may either be continuous wave (CW) or be modulated at different rates (pulse lasers). In simple terms, pulse lasers are those that emit light not in a continuous mode, but in optical pulses. While pulse lasers are used for fine cutting thin metals, continuous wave lasers are used for cutting a wide range of thick metals (up to 2 inches thick). Sometimes pulse lasers are also characterized as a separate laser type.

In terms of their application, the lasers used in laser pointers, CD-ROM drives, DVD players, DVD-R burners etc. are low-power lasers. Low-power CO_2 (gas) lasers are used for marking and engraving wood, plastic, paper, fabric, and other organic materials. These lasers can also cut paper and thin pieces of wood. Low-power fiber lasers are used for marking metals and plastics, and can also be used to scribe solar cells and ceramic materials.

High-power CO_2 lasers are used for cutting and welding thick metal sheets. The automobile industry makes extensive use of high-power carbon dioxide lasers for computer controlled welding in its assembly lines. Other higher power applications include the drilling of cooling holes in high temperature turbine engine blades and vanes, military applications such as anti-missile weapons, and basic research applications such as in particle acceleration. High-power continuous wave fiber lasers are used to cut and weld metals such as steel, aluminum, brass, copper and many others. Examples with pulsed cutting with the fiber lasers include cutting cardiovascular stents and silicon wafers for solar panels.

GROWTH HAS BEEN STRONG AND SHOULD REMAIN ROBUST GOING FORWARD

Strong Growth from Increasing Adoption

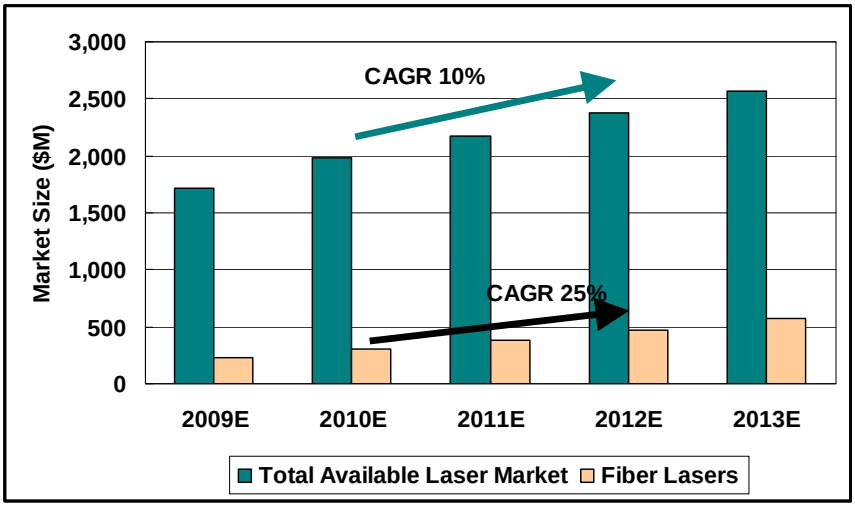
Worldwide industrial laser production units have been growing at an 8%-10% CAGR over the past several years, primarily due to their increasing adoption in materials processing applications such as metal cutting, marking and welding.

Lasers will continue to see their growing adoption in manufacturing applications, such as cutting, welding and marking.

Within the overall laser segment, fiber lasers have emerged as a much faster growth sub-segment over the past 4-5 years. While low-power fiber lasers have been around for close to 40 years, they only recently started seeing meaningful adoption - the inability to achieve high-power levels and lower costs were two key hurdles. Significant materials and processing related advancements in the active fiber technology have enabled fiber lasers to achieve significantly higher power outputs that are now comparable with traditional crystal and gas based laser technologies. Additionally, improvements in semiconductor diode manufacturing technology have made fiber lasers more cost competitive with other types of traditional lasers.

These technological advancements have not only enabled fiber lasers to expand into new applications for lasers, but have also enabled them to replace other types of lasers in their current applications. Fiber lasers present a significant performance, flexibility and cost of ownership advantage over traditional lasers. While the growth in the overall laser market is expected to be in the order of 10%, the fiber laser market is expected to grow at a 25% CAGR (Exhibit 5). It appears that most of the market share gains for fiber lasers thus far have come at the expense of solid state lasers, but this technology is now starting to compete with CO_2 gas lasers in certain welding and cutting applications.

Exhibit 5: Projected Growth in Lasers



Source: IPGP Investor Presentation, Strategies Unlimited and D.A. Davidson & Co. estimates

FIBER LASERS ARE THE FASTEST GROWING SUB-SEGMENT OF THE MARKET

Fiber Lasers Have Gained Share from Solid State Lasers

As discussed in the previous section, fiber lasers are expected to grow at a faster pace than the overall laser market. Here, we discuss some of the key advantages that fiber lasers present over other laser technologies.

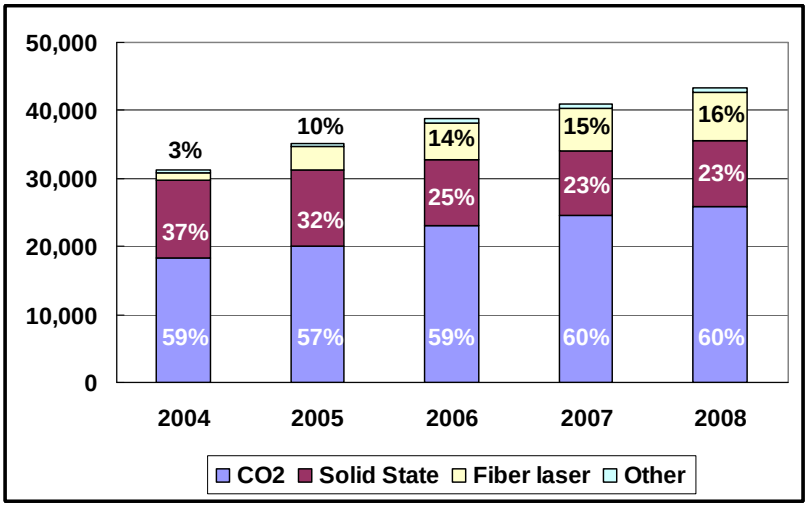
Advantages of Fiber Lasers Lead to Growing Adoption in Various Applications

- **Better performance**. Fiber lasers have superior beam quality and greater intensity that allow tasks to be completed more rapidly and with lower power. Additionally, unlike most other lasers, the quality of fiber laser beam does not change with varying power, making it less susceptible to performance changes with fluctuations in power. As a result, the fiber laser beam can be focused to achieve high levels of precision (little divergence) and over a greater range of focus within which the materials processing can be completed. The high intensity and Gaussian shape of the beam allow accurate cutting even of high-reflectivity and refractory high-melt point materials.
- **Lower cost of ownership**. Fiber lasers are significantly more energy efficient than other laser technologies. Fiber lasers convert electrical energy to optical energy almost 2-3 times more efficiently than diode-pumped YAG lasers (solid state laser), almost 3 times more efficiently than conventional CO_2 (gas) lasers, and almost 15-30 times more efficiently than lamp-pumped YAG lasers. Additionally, fiber lasers operate at substantially lower temperatures, which reduce their cooling requirement, resulting in a smaller form factor (size) and compact design. Fiber lasers have little to no maintenance costs as they do not require consumable gases or optic components. There are no lamps to replace or mirrors to clean. While the initial cost may be somewhat higher, the cost of ownership over the longer period of time works out to be quite competitive or better than traditional lasers.
- **Ease of use**. Unlike other laser systems that require precision laser optics components such as lenses and mirrors, the gain and delivery medium in fiber lasers happens to be the fiber itself. As a result, fiber lasers are more durable, compact, and have better accessibility to complex and hard to reach parts and components that need to be processed. These features make fiber lasers easier to operate, maintain and integrate into laser-based systems as compared to conventional lasers.
- **Flexibility and control**. Fiber lasers provide flexibility in the choice of wavelength used in various applications. This flexibility allows users to select the precise wavelength that best matches their application and materials, leading to better flexibility and precision during the process.
- **Smaller form factor**. Due to lower cooling requirements, no need for optical components, and the use of flexible fibers as the gain and delivery medium, fiber lasers are typically smaller and lighter in weight than conventional lasers. This results in significant savings in valuable floor space.

The advantages discussed above have not only enabled fiber lasers to expand into new applications, but also replace other types of lasers in their current applications. The worldwide

sales of fiber lasers grew from 3% of total unit sales in 2004 to 16% in 2008 (Exhibit 6). It appears that most of the market share gains for fiber lasers thus far have come at the expense of solid state lasers.

Exhibit 6: 5-year Worldwide Industrial Laser Production Units

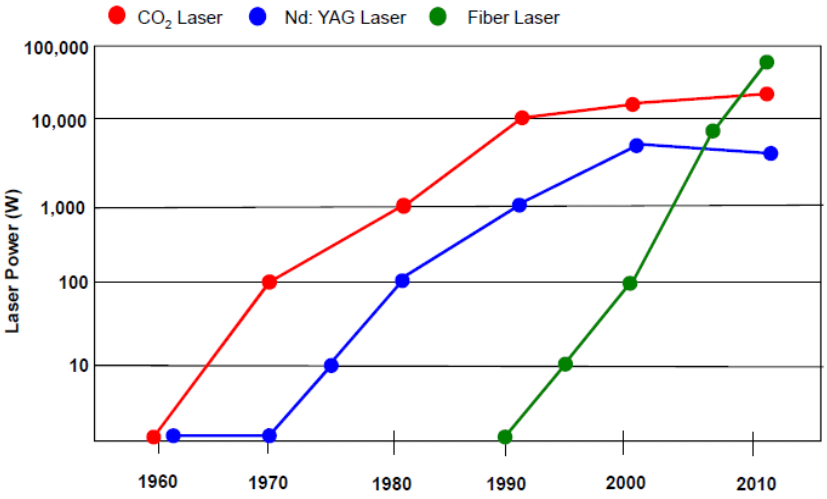


Source: Laser Focus World, IPGP Investor Presentation

Technological Advancements in Fiber Lasers Now Challenging Gas Lasers

Recent developments in fiber laser technology have enabled it to achieve high-power levels that are comparable to traditional solid state lasers, and they are now reaching levels that are even comparable to CO_2 gas lasers. Traditionally, CO_2 gas lasers have dominated the thick metal cutting market in industrial applications. While fiber lasers' share gains thus far have come at the expense of solid state lasers, we believe the growing high-power capability of fiber lasers (now reaching more than 10,000 Watts) is now starting to challenge CO_2 lasers in certain applications (Exhibit 7).

Exhibit 7: Fiber Lasers Reaching Power Levels Comparable to Other Lasers



Source: EALA, Automatic Feed Co., ALAW 2009, IPGP Investor Presentation

We would point out that there remain applications and processes where conventional laser technologies may provide superior performance with respect to particular features. For example, crystal lasers can provide higher peak power pulses and fiber lasers do not generate the deep ultraviolet light that is used for photolithography in many semiconductor applications. In addition, CO_2 lasers operate at wavelengths that are optimal for use on many non-metallic materials, including plastics, and may be preferred for certain types of metal cutting because of their wavelength capabilities and other features. Clearly, the appropriate choice of a laser system is quite dependent upon various processing, cost and material parameters.

COMPANIES ARE RUSHING TO GET INTO FIBER LASERS

The Fiber Laser Space has been Experiencing Strong M&A Activity

The recognition of fiber lasers as one of the fastest growing sub-segments in lasers is quite evident by the mergers and acquisitions activity in the space over the past 2-3 years. Several larger players have acquired fiber laser focused companies to expedite their entry into this market. Given our expectation of above industry average growth in the fiber laser market, we continue to expect significant further activity in this segment as companies position themselves to gain from this ongoing high-growth trend.

Trumpf Bought SPI Laser

Trumpf GmbH + Co. KG of Germany, a leading producer of laser-based products and solutions for materials processing applications, announced the acquisition of UK-based fiber laser maker SPI Lasers in September 2008 for approximately $49 million in cash. SPI Lasers had a strong focus on fiber laser technology and this acquisition will provide Trumpf with expertise in a previously untapped area of the laser market. At the time of acquisition, SPI Laser employed about 170 people and its reported revenues for 2007 were approximately $23 million. Trumpf said this acquisition will enable it to quickly establish a significant presence in the fiber laser market.

Rofin Sinar Bought Nufern

Another leading German laser maker Rofin-Sinar Technologies Inc. (RSTI - $23.00) acquired Nufern, an East Granby, CT manufacturer of fiber lasers in the first quarter of 2008. Founded in 2000, Nufern made specialty fibers and fiber laser modules for use in material processing and in the telecommunications, military and defense industries. Rofin-Sinar expected this acquisition to provide the additional critical technology basis that it needs to economically manufacture fiber lasers.

nLight Acquired Leikki of Finland

nLIGHT Corporation, a leading manufacturer of high-power semiconductor lasers, acquired a leading specialty active fiber manufacturer LIEKKI Corporation based in Lohja, Finland in late 2007. This acquisition helped the company integrate some core technologies in the rapidly growing markets for semiconductor and fiber lasers.

Lockheed Martin Completes the Acquisition of Aculight Corporation

In September 2008, Lockheed Martin Corporation (LMT $74.41) completed its acquisition of Aculight Corporation. Based in Bothell, WA, Aculight is focused on providing laser-based solutions for national defense and aerospace customers. Aculight's broad portfolio of technologies includes solid-state lasers, fiber lasers, mid-IR lasers, optical parametric oscillators, and spectrally beam combined high brightness lasers. The combination of Lockheed Martin and Aculight has resulted in a very strong fiber laser development team.

IPG Photonics is by far the Strongest Pure Play in the Space

While several larger players are trying to get into the fiber laser market, due to its early focus and technological superiority, IPG Photonics has a clear lead in this market. Additionally, IPG Photonics is currently positioned as the only publicly traded pure play in the fiber laser market. Given its leadership position and exposure to a very high growth end market, the company’s revenues have grown at a 48% CAGR from 2002 to 2008. The company’s vertically integrated structure, proprietary product portfolio, and growing production volumes have lead to significant gross margin expansion, which have improved from ~7% in 2002 to close to ~48% in 2008. Almost 10% of the company’s workforce is dedicated to research and development, which has resulted in a strong and defensible IP portfolio. We initiated coverage on IPG Photonics in April 2009 and have since pitched this to investors as our best growth idea. We continue to believe that, while 2009 was a challenging year for the company, strong long-term growth should return as the technology continued to see growing adoption as technological advances continue to improve performance and cost.

INVESTMENT IDEAS IN THE LASER SPACE

Innovative Laser Companies from our Coverage Universe

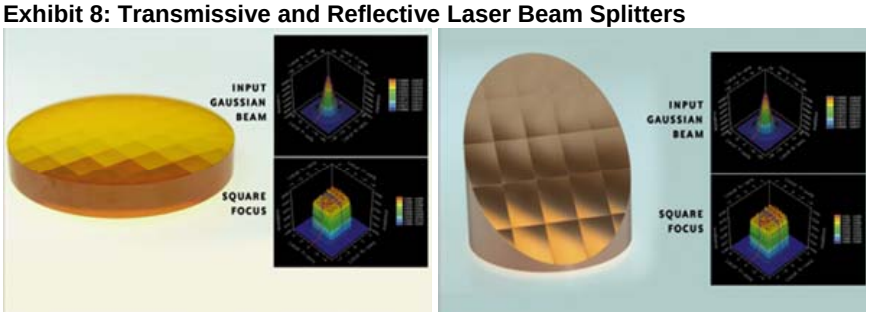
We highlight two Advanced Materials companies within our universe, II-VI Inc. and IPG Photonics Corp. that are levered to the ongoing growth in the adoption of lasers.

Laser Optics Components from II-VI Inc.

A Leader in the Laser Optics Market

II-VI Inc. is the world's leading manufacturer of infrared laser optical elements. The company also makes near-infrared and military infrared optical components, which go into laser cutting, welding, heat-treating, marking, and engraving operations in the industrial, defense, medical, and other industries. Infrared, near-infrared, and military infrared optics components are more than 80% of the company's business. Over time, II-VI has accumulated strong intellectual property and technological know-how to develop, manufacture, and coat complex materials from the periodic table. The company's vertically integrated model protects it from material shortages and strong fluctuations in the price of the underlying commodity. The company has strong international exposure, with sales accounting for close to 45% of revenues during the past three years. Other than the United States, the company has manufacturing operations in Singapore, China, Vietnam, the Philippines and Germany. Some of the company's products are shown in Exhibit 8. Please refer to page 29 of this report for more details on II-VI Inc.

Exhibit 8: Transmissive and Reflective Laser Beam Splitters

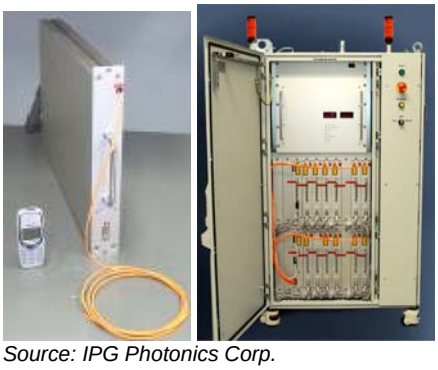


Source: II-VI Inc.

IPG Photonics Corp., our Pure Play on Fast Growing Fiber Lasers

IPG Photonics is the market leader in high-powered fiber lasers and amplifiers. Fiber lasers are new generation lasers enabling additional flexibility, ease of use, and form factor advantages over traditional lasers. While the fiber laser technology has been around for a few decades, there were several technology road blocks that prevented the lasers from achieving high-power outputs readily available in other traditional laser technologies. With constant technological innovation, IPG has enabled the commercialization of low cost high-powered fiber laser and made this technology quite competitive in performance and cost. Materials processing has been the most significant segment (close to 80%) of the company's business. IPGP is vertically integrated as it fully develops and manufactures all of the key specialty components, such as semiconductor diodes along with the critical active and passive fibers that go into the laser systems. The company has strong international exposure, with approximately 77% of sales in 2008. Exhibit 9 depicts a fiber laser and module. Please refer to page 30 of this report for more details on IPG Photonics.

Exhibit 9: Fiber Laser and Module



Source: IPG Photonics Corp.

Our Broad Investment Thesis on Advanced Materials

CHARACTERISTICS OF ADVANCED MATERIALS

What Differentiates Advanced Materials from Traditional Materials?

Advanced materials help stimulate development, improve performance, prolong product life, and/or reduce costs. Throughout this report, detailed descriptions of investment ideas will indicate that companies within our coverage universe are focused on advanced materials such as silicon, beryllium, ruthenium, zinc selenide, and sapphire, as opposed to some of the more traditional materials such as aluminum, copper and steel.

Our Investment Thesis

As applications in leading edge industries, such as technology and cleantech, push performance limits, we believe conventional materials will need to be replaced with advanced materials. Our Advanced Materials universe comprises of companies that produce such enabling materials for other end users, or apply their materials know-how to come up with leading edge products and applications themselves. We see high growth for advanced materials - not only from their existing applications but, more importantly, from their increasing adoption in various new applications.

Themes We Focus On

While the scope of advanced materials is quite universal, we narrow the scope by focusing on the following high-growth long-term themes:

- Shrinking semiconductor devices and components.
- Clean technology—battery, LED, solar and wind.
- Enabling materials and manufacturing—Beryllium, explosion clad metals, composite materials, lasers etc.

Key Characteristics of Companies within Our Universe

We believe an advanced materials company should meet the following parameters:

- Advanced materials related intellectual property.
- Exposed to high-growth long-term themes.
- Leadership position in served markets.
- Pass through most of the commodity price.
- Good margin profile and solid balance sheet.
- Growth beyond existing markets from increasing adoption.

We believe niche advanced materials companies with a defensible technology edge and tangible end-market focus have the opportunity to be highly successful.

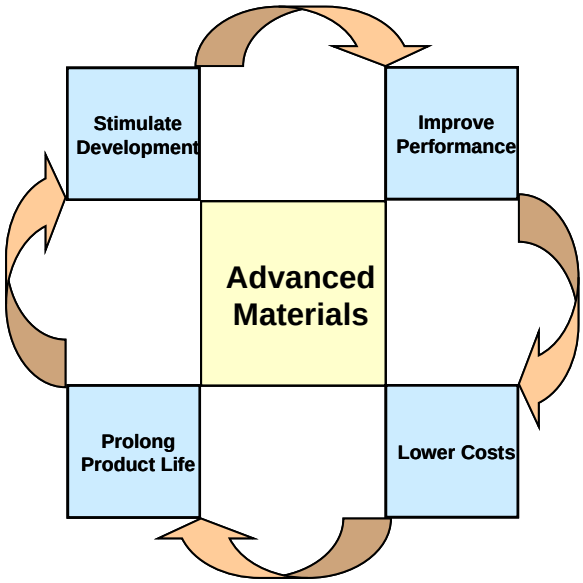
A detailed description of our industry thesis has been presented in the next segment.

Differentiating Advanced Materials from Traditional Materials

Advanced materials stimulate development, improve performance, prolong product life, and/or lower costs.

Advanced materials keep technology and development on the leading edge, pushing a process or product's capabilities to its limits. Such materials enable breakthroughs in performance and can make the seemingly unattainable a reality. In our definition, we tend to consider any material "advanced", if it helps stimulate development, improves performance, prolongs product life, and/or lowers costs (Exhibit 10).

Exhibit 10: Enabling and Improving Technologies with the Materials Edge



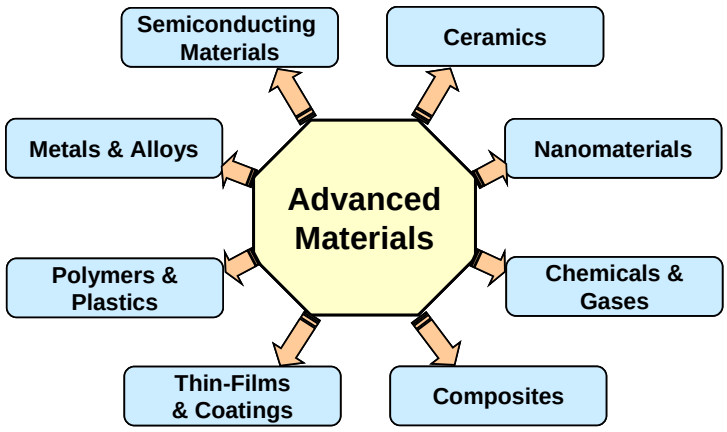
Source: D.A. Davidson & Co.

Companies Could Address a Multitude of Materials Segments

Companies are not limited to specific material types.

Looking at our coverage universe from the perspective of material types, we believe advanced materials companies could be involved primarily within eight different materials categories, as shown in Exhibit 11. Clearly we do not believe that the scope of Advanced Materials is limited to any specific material type.

Exhibit 11: Materials Categories where we Expect Significant Innovation



Source: D.A. Davidson & Co.

WHAT MAKES AN ADVANCED MATERIALS COMPANY?

Leading Edge Materials Related Intellectual Property and Know-How

We admit the materials business has been stigmatized, as most observers believe the companies are commoditized with little pricing leverage and lower margins. There is some truth to this, as the R&D costs of developing new materials are quite high and companies find it hard to recoup that cost from their customers. We believe this is where advanced materials companies differentiate themselves from traditional materials companies. In the end, it is all about adding value to the customers. Advanced materials companies enable their customers to achieve strong product differentiation and cost advantages.

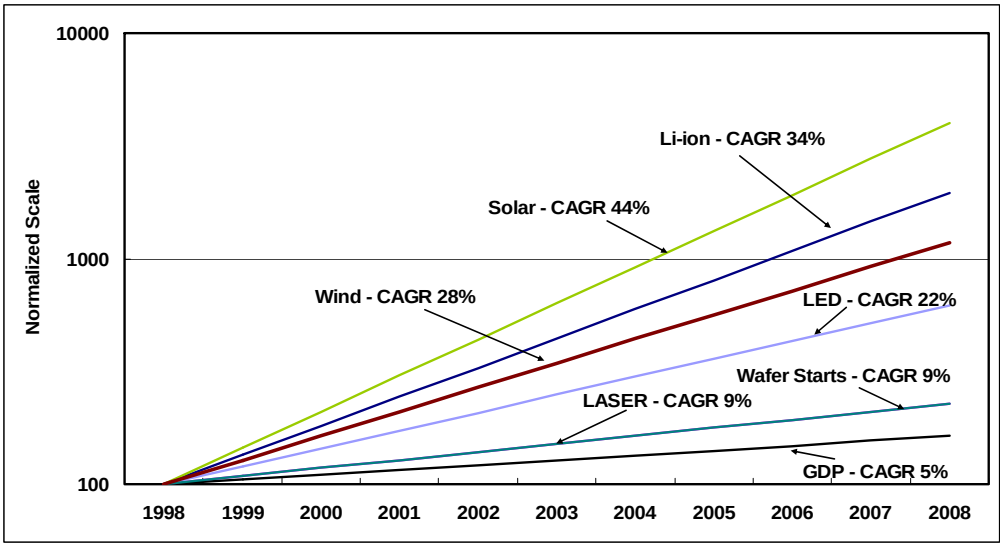
Exposed to High-Growth Long-Term Themes

We focus on themes that will lead to significantly higher growth rates than the GDP.

Materials demand in general should see a steady underlying growth as the world population continues to increase and, more importantly, the consumption level for a vast number of people in developing nations accelerates with higher economic growth, leading to significantly higher income levels. While these trends are positive for almost all materials, we try to find companies that are exposed to end markets that we believe have significantly higher long-term growth rates. The three key themes we focus on are: smaller, faster & cheaper semiconductor devices; clean technology; and enabling materials & manufacturing. New materials are becoming increasingly critical as semiconductor device size continues to shrink and various traditional materials used are now reaching their physical limit in terms of shrinkage. Clean technology is another emerging opportunity where we see significant growth in the need for mobile power (batteries), long-lasting less energy consuming lighting (LEDs), solar and wind power. Within our enabling materials & manufacturing theme, we focus on new materials that enable leading edge industrial applications and technologies, such as composites, lasers and explosion clad welding that lead to better manufacturing efficiency. As shown in Exhibit 12, all these applications have seen significantly higher growth compared to GDP growth over the past few years, and we expect these trends to continue for the next several years.

Exhibit 12: Growth Rates of Major Trends within our Sector

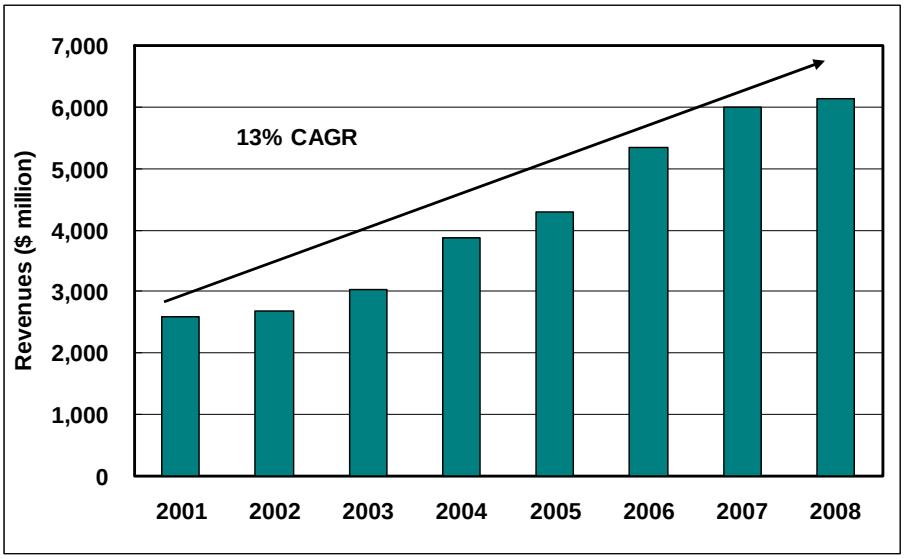
Growth Rates Have Been Well Above the GDP.



Source: Unisource, European Wind Energy Association, Navigant Consulting, Strategies Unlimited, VLSI, Dataquest, Laserfocusworld and D.A. Davidson & Co. estimates

As all the companies within our Advanced Materials universe are exposed to these high-growth trends, combined revenues of the companies within our coverage have grown at a 13% CAGR since the beginning of this decade (Exhibit 13).

Exhibit 13: Composite Revenues of Advanced Materials Companies within Coverage



Source: CapitalIQ and Company SEC Filings

Exposure to high-growth end markets is reflected in revenue growth.

Leadership Position in Their Respective End Markets

Almost every company in our universe has a leadership position in the key market they play in.

Almost every company in our universe has a leadership position in the key market that they play in. For example, Brush Engineered Materials is a leader in beryllium and beryllium alloys, II-VI Inc. is the largest supplier of infrared optics components, Dynamic Materials commands number one share of the explosion clad market, Cabot Microelectronics is by far the number one player in slurries for the polishing of semiconductors and Zoltek Companies Inc. is the market leader in carbon fibers for wind turbines. While most of these companies address niche markets, many are creating their own markets as they solve existing problems and enhance technologies. For example, ATMI, Inc. continues to introduce new products and materials to enhance semiconductor process and manufacturing efficiency. Their flagship product called the Safe Delivery System was a new approach enabling the safe delivery of gases in processing chambers, which also has a significant throughput advantage. Another company, IPG Photonics Corp., has been able to solve key technology and cost-related challenges in the emerging fiber laser space, which is experiencing growing adoption in various manufacturing-related applications. We believe the leadership positions of these companies provide an important support to our overall investment theme.

Business not Directly Tied to the Underlying Commodity

Companies pass-through the price of commodities to their customers.

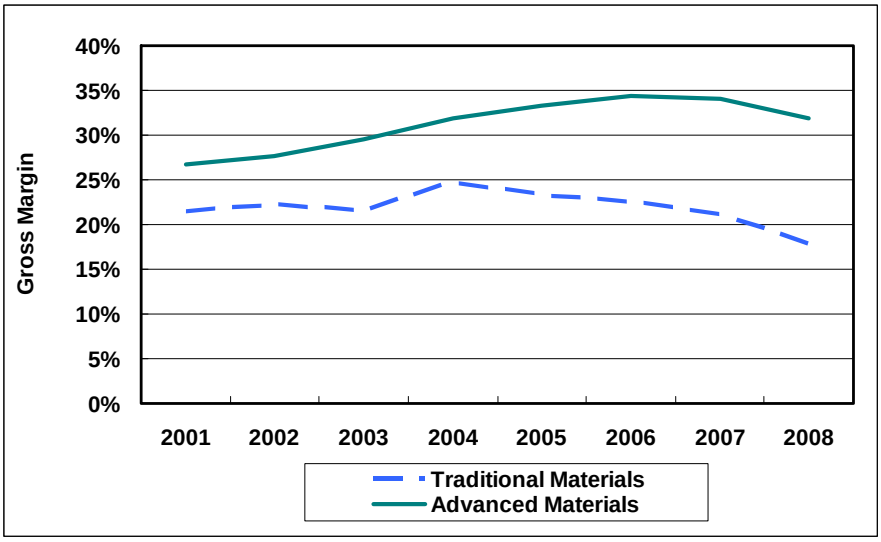
We acknowledge that every materials business has some dependence on the price of the underlying commodity, but the primary focus within our universe is not on what happens to the price but what proprietary process and technology is applied to that material in order to add value. Almost every company within our Advanced Materials universe tends to pass-through the price of the underlying commodities to its customers. Clearly, profit margins are not based on fluctuations in the price of the materials but on the proprietary process and materials know-how applied to them, which leads to better performance and/or lower cost. Once again, this is how advanced materials companies differ from the traditional materials companies.

Good Margin Profile and Solid Balance Sheet

Advanced materials command better margins than traditional materials.

One important measure of product differentiation and value add is measured by the profit margin profile of the business. We have plotted the composite gross margin of the companies within our universe versus a composite of some of the large traditional materials companies (Exhibit 14). The margin profile of companies within our coverage universe tends to be better than the traditional materials companies. Additionally, we believe a strong balance sheet should always be a key requirement for any quality long-term investment idea. Almost all of the companies in our coverage universe have very solid balance sheets with significant cash positions and minimal or no debt.

Exhibit 14: Advanced Materials vs. Traditional Materials Gross Margin



Source: CapitalIQ, Filings from Advanced Materials Companies within our Coverage and 3M Co., Alcoa, Arcelor Mittal, Dow Chemical, Nucor, US Steel

Advanced Materials Companies Command Better Margins.

Growth Beyond Existing Markets from Increasing Adoption

Continued adoption in new applications leads to higher growth.

One key driver of higher growth for advanced materials is the increasing adoption in new applications. As semiconductor components shrink in size, airplanes become lighter to reduce fuel consumption, and industries reduce their carbon footprint, we believe new materials will continue to replace traditional materials. For example, beryllium and beryllium alloys have traditionally been used in defense and aerospace industries but, over time, they have found significant applications in semiconductor components as a connector material that can keep its shape even with shrinking size. Similarly, corrosion resistant explosion clad metals have seen growth from shipbuilding to oil refining and, most recently, in alternative energy.

Need to Look at Advanced Materials Companies in a Non-Traditional Way

A new Advanced Materials universe provides the right framework for understanding the companies within our coverage.

Unlike traditional sectors such as semiconductor, industrial or defense, companies in our Advanced Materials sector address more than one end market. For example, a company like Ceradyne makes body armor using ceramics but, at the same time, uses its ceramic know-how to make crucibles for solar. Additionally, the company's ceramics go into several industrial applications. Clearly, its end market exposure ranges from defense to industrial to cleantech. We believe that looking at such companies from one end market perspective will pigeonhole investors into only thinking about the opportunities in that particular business segment. To genuinely value the business opportunity from multiple end markets, investors need to look at such companies from an end market agnostic point of view. We believe our Advanced Materials universe provides the right framework for understanding their capabilities. We strongly believe that, given their high growth potential, better profit margins, and true product differentiation, Advanced Materials companies deserve a premium valuation.

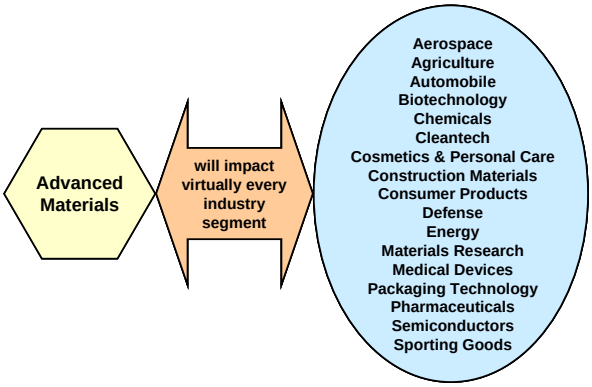
SCOPE OF OUR ADVANCED MATERIALS UNIVERSE

Almost Every End Market will be Impacted by Advanced Materials

Advanced materials will help push the limits of performance in almost every industry segment.

Advanced materials are playing a major role in transforming a variety of industries: The transition from aluminum to copper interconnects has enabled semiconductor chips to achieve faster processing speeds; Light Emitting Diodes (LEDs) are extending their application from being used as indicators to becoming a source of illumination; Thin-film Silicon, Germanium and Cadmium Telluride are increasing the efficiency of solar cells. These are just a few examples illustrating the role of advanced materials. We believe advanced materials will help push the limits of performance in every industry segment (Exhibit 15).

Exhibit 15: Industry Segments that would Gain from Advanced Materials



Source: D.A. Davidson & Co.

We Focus on the Technology & Cleantech Industry

We focus on technology and cleantech as these will lead the adoption of advanced materials.

While advanced materials will clearly impact most industries, given our growth emphasis, we focus on technology and cleantech-related applications. Given the leading edge nature of these industries, we believe they will be the early adopters of advanced materials. The semiconductor industry serves as a great example. At the wafer level, there have been numerous developments to increase the size of the wafer, reduce its thickness, and manufacture it with innovative materials. At the chip level, introduction of several new thin film materials, such as copper, low-k (k stands for the dielectric constant) and high-k dielectrics, have enabled chips to become faster, cheaper and smaller. Interestingly, the same wafer and thin-film related innovations are now becoming a key driver for the cleantech industry (Exhibit 16). While the scope of clean technology is very wide, it generally revolves around applications such as solar power, wind power, LEDs, electric/hybrid-electric vehicles and other energy-efficient non-polluting technologies.

Exhibit 16: Several Innovations for Technology are Now Driving Cleantech

Wafers become semiconductors...which become the electronics we use every day.

Wafers also become solar cells...which generate the clean power of today and tomorrow.

Source: MEMC Electronic Materials Inc.

LONG-TERM THEMES WE ARE FOCUSED ON

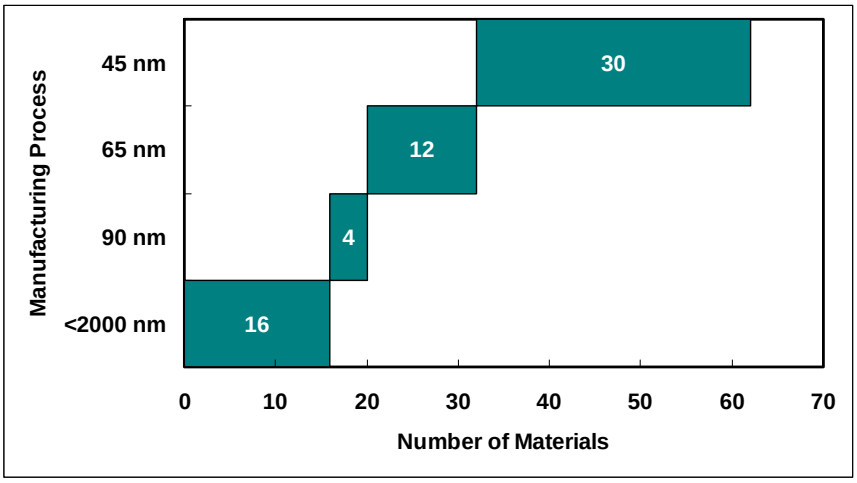
Shrinking Semiconductor Devices and Components

The semiconductor industry has been among the fastest growing industries over the past 50+ years. As far as technology is concerned, it has kept on a path of phenomenal growth by doubling the number of transistors every 18 months since 1965 (as predicted by Moore's Law). Up until this decade, most of this growth was achieved by shrinking the minimum line-width of transistors but, as geometries started to shrink below nano-dimensions (100 nanometers), scientists and engineers started to feel the need to make changes in the materials that have been traditionally used in semiconductor processing. We believe major changes in materials will be needed to drive the next leg of growth and keep it on the path of Moore's Law. Research by Solid State Technology (an independent research firm) indicates that the number of additional new materials, required for each advanced generation (90nm to 65nm to 45nm), has more than doubled (Exhibit 17). We expect this trend to continue as semiconductor geometries shrink further to 32nm, 22nm and beyond. We believe this overriding theme, on top of a 7%-9% average annual growth rate in semiconductor unit demand, will lead to much stronger growth in companies that enable advanced materials for semiconductor chip manufacturing.

Additional new materials required for each advanced generation of semiconductors has more than doubled.

Within our coverage universe, companies such as ATMI, Inc. and Cabot Microelectronics are exposed to this trend as they supply materials used in semiconductor chip manufacturing. Two other companies, Brush Engineered Materials and Rogers Corporation, are also exposed to this trend as their materials are used in electronic components such as cellular phones, DVD players, and 3G base stations.

Exhibit 17: Number of Materials Used With Each New Manufacturing Process



Source: Solid State Technology

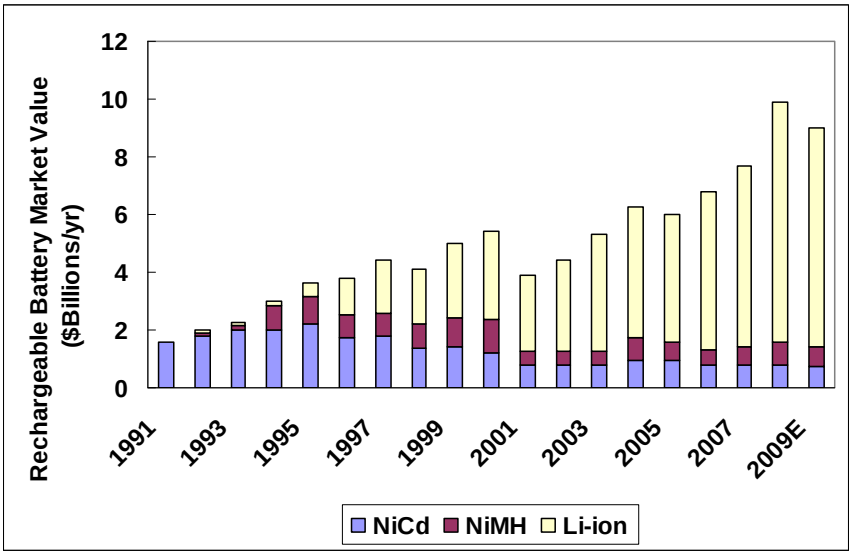
Lithium-ion Batteries

We expect the market for lithium-ion batteries to experience very strong growth over the next several years. The electronics industry has already seen the adoption of these batteries, as they are now the dominant rechargeable battery choice in mobile phones, laptops, computers and other mobile electronic devices. Additionally, due to its higher energy density and smaller form factor (size), Li-ion batteries have also been replacing Nicked Cadmium (NiCd) and Nickel Metal Hydride (NiMH) batteries in power tools applications. We believe the penetration of Li-ion batteries in the power tools market is less than 50% at this point, providing significant growth opportunity over the next few years. While these trends have already lead to differentiated growth for Li-ion in the rechargeable battery market (Exhibit 18), we believe the next leg of growth will be driven by applications such as lawn and garden tools, lawn mowers and vacuum cleaners. Ultimately, we see the adoption of Li-ion batteries in Hybrid Electric Vehicles (HEVs) and Electric Vehicles (EVs), which will end up growing this market by an order of magnitude.

Due to higher energy density and smaller size, Li-ion batteries have seen the fastest growth within the rechargeable battery market.

Polypore International Inc. is a company within our current coverage universe exposed to this trend, as it is one of the leading suppliers of separation membranes for lithium-ion batteries.

Exhibit 18: Li-ion, the Highest Growth Segment of the Rechargeable Battery Market



Source: Unisource and D.A. Davidson & Co. estimates

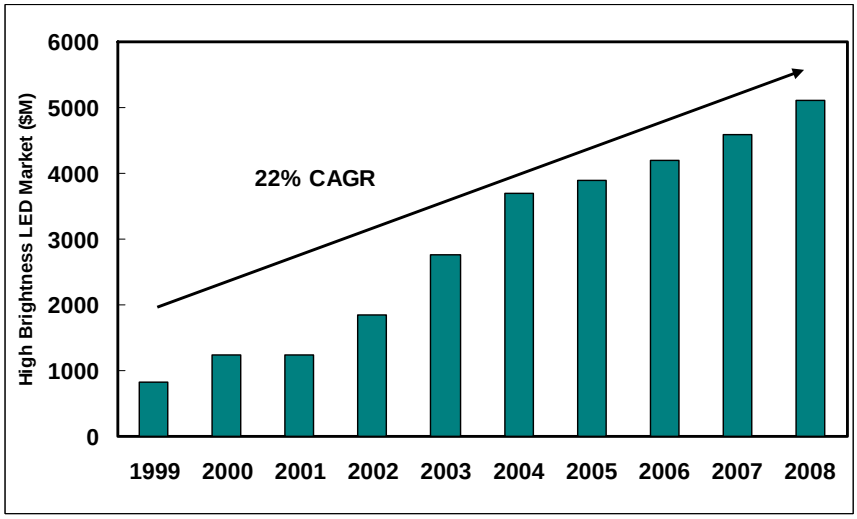
Light Emitting Diodes (LEDs)

We expect strong growth in LEDs from their increasing adoption in displays, traffic signals, automotive lighting and, eventually, in general lighting.

LEDs have seen their growing adoption in backlighting for cellular phones, notebooks and netbooks. While penetration in cellular phones may have reached a high level, notebooks and netbooks are still in the early stages of adoption. Leading manufacturers are now starting to announce television displays using LEDs, which could provide another strong leg of growth over the next few years. Other than electronics, LEDs have also seen strong adoption in traffic signals and automotive lighting. More importantly, due to their lower energy consumption, higher durability, smaller size and non-polluting nature (no mercury), LEDs are now emerging as the solid state lighting of choice over traditional incandescent and fluorescent lighting. According to published reports by industry sources (Strategies Unlimited and LEDs Magazine) and our estimates, the High Brightness (HB) LED market has grown at a 22% CAGR over the past nine years (Exhibit 19). Once past the current economic downturn, we expect the LED market to resume its strong growth, driven by increasing adoption in backlighting units for displays, mobile devices, traffic signals, automotive lighting and eventually in general lighting, which, we believe, is the holy grail for LEDs.

Almost 70% of the world's LEDs are made on sapphire wafers. As the leading supplier of sapphire wafers, Rubicon Technologies Inc. is a company within our current coverage universe that stands to benefit from the long-term growth in LEDs.

Exhibit 19: Growth in LEDs



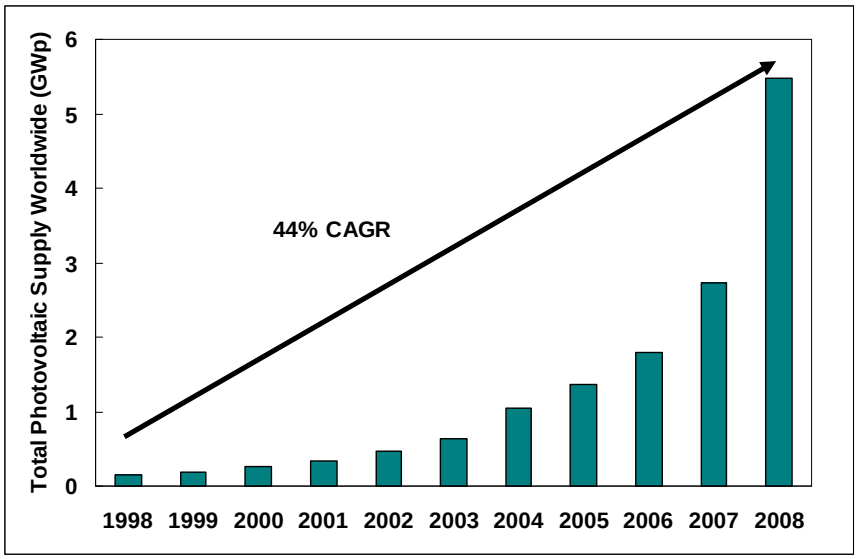
Source: Strategies Unlimited, LEDs Magazine

Solar Energy

We expect advanced materials to play the enabling role in the adoption of solar energy.

Growing environmental awareness has been a key driver for cleaner sources of energy. As worldwide demand for electricity continues to increase, there has been a strong drive to reduce the industry's historical reliance on fossil fuel by replacing it with renewable sources of energy such as solar. One of the enablers of this initiative is the crystalline silicon photovoltaic (PV) technology that was developed more than 50 years ago. The photovoltaic cell is a device that converts sunlight into electric current. Over time, several other techniques such as thin-film solar, concentrated solar power (CSP) and concentrated photovoltaics have emerged, which convert solar energy into electricity. Clearly, growth over the past ten years has been very high (44% CAGR) as capacity continues to come on line (Exhibit 20). The solar industry has so far been heavily dependent on government incentives, as it is not yet competitive with traditional sources on price, although scientists and engineers are working hard to make this technology economically viable. Advanced materials, such as amorphous silicon (a-Si), copper indium gallium selenide (CIGS), cadmium telluride (CdTe) and gallium arsenide (GaAs), are being investigated by the solar industry and we expect these materials to play an enabling role in the adoption of solar energy.

Exhibit 20: Global Photovoltaic Supply Growth



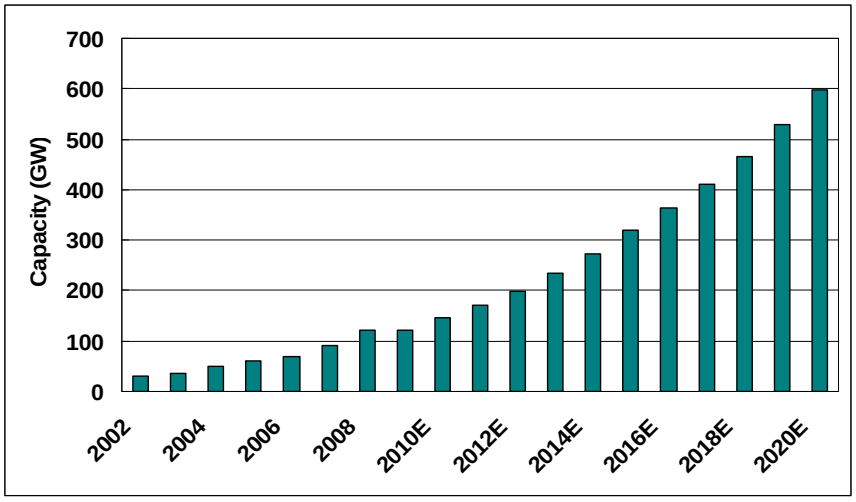
Source: European Photovoltaic Industry Association, Navigant Consulting

Ceradyne, Inc. is a company within our current coverage universe that has a partial but very fast growing exposure to the solar market as it makes crucibles for melting of silicon. IPG Photonics and Dynamic Materials are two other companies in our coverage universe with exposure to the solar market.

Growth in Wind Energy

As global demand for energy continues to increase, due to growing population and improving quality of life, significant investment in new power generating capacity needs to come on line. Unfortunately, while demand for energy continues to increase, the price of fossil fuels used in power generation is also increasing. Environmental concerns and the will to break away from the dependence on foreign oil has lead to significant investments in various other sources of energy, such as solar and wind. Due to its ease of installation, price competitiveness with conventional sources of energy, and indigenous nature, wind power has experienced strong growth in worldwide installed capacity. Today wind energy is responsible for close to 2% of electricity generation worldwide. The Global Wind Energy Council projects that, under a moderate growth scenario, wind power could be responsible for close to 12% of worldwide electricity generation by 2030. Clearly, growth in this segment is expected to be quite strong (20% annual rate) once past the current weak economic environment (Exhibit 21).

Exhibit 21: Worldwide Capacity Growth in Wind Energy



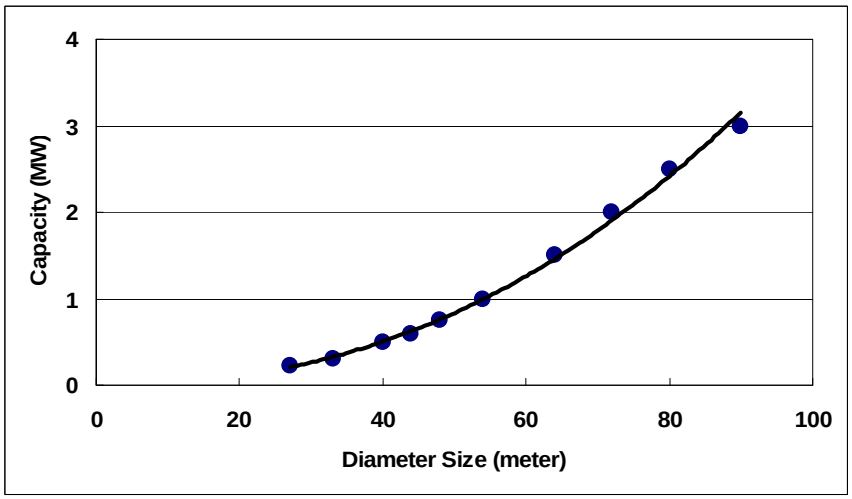
Source: Global Wind Energy Council and D.A. Davidson & Co. estimates

The Global Wind Energy Council projects that wind power could be close to 12% of worldwide electricity generation by 2030.

In order to achieve cost competitiveness in the wind energy industry, players are constantly looking to exploit economies of scale. In the case of wind turbines, the sweep area covered by the blades, along with the wind speeds, determine how much energy can be produced. While there is no control over the wind speed, turbine manufacturers have been moving to larger blades in order to maximize the sweep area. For example, a doubling of the rotor diameter results in four times as much power output. Exhibit 22 shows the geometric progression in turbine capacity with increasing turbine diameter.

Doubling of the rotor diameter results in four times as much power output.

Exhibit 22: Larger Turbines Generate More Power



Source: windpower.org and D.A. Davidson & Co. estimates

While a larger turbine is more desirable, designers make every effort to keep the weight growth at a much lower rate than simple geometric scaling. To achieve this, designers are working with lighter and stronger carbon fibers in high stress locations, to stiffen blades and improve fatigue resistance. Using lighter blades reduces the load-carrying requirements for the entire supporting structure and saves total costs far beyond the material savings. Lighter blades are also quite advantageous at lighter wind sites, as they can harvest more energy than a turbine with a heavier blade. With wind turbine size reaching more than 100 meters in diameter, the use of carbon fibers and other lightweight composite materials has become a necessity in leading edge turbines.

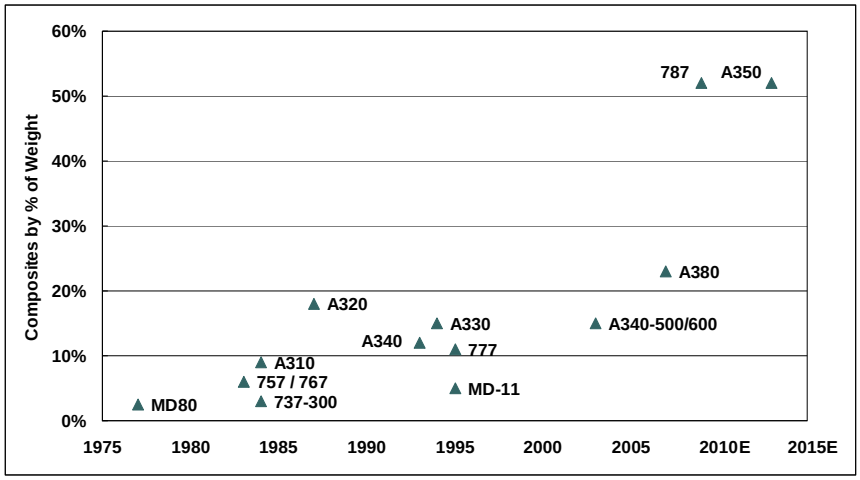
As leading suppliers of carbon fibers and composite materials, Zoltek Companies Inc. and Hexcel Corporation are two companies within our universe that are exposed to the growth in large wind turbines.

Higher Adoption of Composite Materials in Commercial Aircrafts

Newer generation commercial aircrafts have significantly higher composite content than older generation aircrafts.

While the early generation of aircrafts such as B707, B767 and B777 had nominal amounts of composites by weight (0%-11%), newer aircrafts are being made with significantly higher composite content. For example, the Airbus A380, which has been in service since late 2007, has 23% composite content by weight. Additionally, some of the future aircrafts such as the B787 and A350 have been designed with even higher composite content. The Boeing B787 (projected to enter into service in late 2010) has about 52% of composite content by weight, and the Airbus A350 (projected to enter into service in 2013) has more than 50% composite content by weight. The trend towards growing adoption of composite materials in newer generation aircrafts is very well demonstrated in Exhibit 23.

Exhibit 23: Growing Composite Content in Newer Commercial Aircrafts



Source: Boeing Co., EADS and D.A. Davidson estimates

As a leading supplier of composite materials, Hexcel Corporation is the company within our universe that is exposed to the trend towards the use of higher composite materials in commercial aircrafts.

In addition to the broad trends mentioned above, several other industries, such as defense, solar, and oil & natural gas are also adopting various advanced materials to improve performance. For example, Ceradyne, Inc. has been extremely successful in making body armors using lightweight ceramics, which has resulted in a significant reduction in weight that soldiers need to carry while in combat. The company's ceramic crucibles have found their niche in the melting of silicon for solar cells. Another company, Dynamic Materials, has developed a proprietary explosion clad technology to join very dissimilar metals that are highly corrosion resistant. These corrosion resistant materials are being used in applications such as oil refining, shipbuilding and alternative energy.

In Exhibit 24, we provide a comparative valuation table of our current coverage universe.

Exhibit 24: Coverage Universe Comparative Valuation Table

Advanced Materials Valuation Table ($ in millions, except per share)

Company	Rating	Target Price	Price 1/7/2010	Shares Out.	Market Cap	BV Per Share	P/Book Value	EV/EBITDA	Sales CY:09E	Sales CY:10E	P/Sales CY:09E	P/Sales CY:10E	EPS CY:09E	EPS CY:10E	P/E CY:09E	P/E CY:10E
Coverage List																
ATMI Inc.*	BUY	$23	$18.85	31.8	$600	$12.69	1.5x	7.8x	$243	$315	2.5x	1.9x	-$0.13	$0.75	n.m.	25x
Brush Engineered Materials Inc.	BUY	$24	$21.23	20.4	$434	$16.85	1.3x	5.1x	$700	$815	0.6x	0.5x	-$0.37	$0.70	n.m.	30x
Cabot Microelectronics Corp.*	BUY	$45	$33.17	23.2	$771	$20.25	1.6x	13.3x	$320	$373	2.4x	2.1x	$1.00	$1.57	n.m.	21x
Ceradyne, Inc.*	NEUTRAL	$20	$19.25	25.9	$499	$24.87	0.8x	1.7x	$408	$390	1.2x	1.3x	$0.58	$0.68	33x	28x
Dynamics Materials Corp*	BUY	$26	$21.65	12.6	$274	$10.45	2.1x	5.8x	$163	$164	1.7x	1.7x	$0.70	$0.70	31x	31x
Entegris, Inc.*	BUY	$8	$5.23	115.0	$602	$2.94	1.8x	11.0x	$372	$525	1.6x	1.2x	-$0.38	$0.25	n.m.	21x
Hexcel Corp.	BUY	$18	$13.72	98.1	$1,346	$5.99	2.3x	9.1x	$1,082	$1,110	1.2x	1.2x	$0.59	$0.60	23x	23x
II-VI Inc*	BUY	$38	$31.48	29.9	$941	$11.15	2.8x	13.3x	$265	$359	3.6x	2.6x	$0.86	$1.18	37x	27x
IPG Photonics Corp.*	BUY	$20	$17.20	46.7	$803	$5.42	3.2x	10.4x	$180	$206	4.5x	3.9x	$0.19	$0.45	n.m.	38x
Polypore International	BUY	$18	$12.02	44.7	$538	$9.17	1.3x	7.1x	$495	$505	1.1x	1.1x	$0.49	$0.65	25x	18x
Rogers Corporation	BUY	$36	$29.34	15.7	$462	$2.65	11.1x	11.6x	$292	$330	1.6x	1.4x	$0.54	$1.05	n.m.	28x
RTI International Metals, Inc.	BUY	$34	$29.16	24.6	$719	$29.85	1.0x	5.5x	$406	$365	1.8x	2.5x	-$0.16	-$0.05	n.m.	n.m.
Rubicon Technology, Inc.*	NEUTRAL	$21	$19.29	20.0	$386	$4.87	4.0x	47.1x	$19	$50	20.1x	9.8x	-$0.45	$0.24	n.m.	n.m.
Titanium Metals Corp.	BUY	$17	$12.85	180.6	$2,321	$6.36	2.0x	8.1x	$763	$685	3.1x	3.4x	$0.17	$0.10	n.m.	n.m.
Zoltek Companies, Inc.*	NEUTRAL	$10	$9.59	34.3	$328	$9.21	1.0x	15.6x	$140	$170	2.4x	2.0x	$0.03	$0.38	n.m.	26x
Average					**$735**	**$11.51**	**2.5x**	**11.5x**	**$390**	**$424**	**3.3x**	**2.4x**	**$0.24**	**$0.62**	**30x**	**26x**

*D.A. Davidson makes a market in this security

Source: D.A. Davidson & Co. estimates

A short one-page introduction of all the companies within our current coverage universe follows.

ATMI, Inc. (ATMI)

Headquarters: Danbury, CT
Website: www.atmi.com.

Rating	**BUY**
Current Price	$18.85
Price Target	$23
52 Wk Price Range	$19.77 - $8.70
Avg Daily Vol	196,700
Market Capitalization	$600 M
Shares Outstanding	31.8 M
Cash	$103.5 M
Cash/Share	$3.25
Debt/Capital	0%
Book Value	$404.1 M
Book Value/Share	$12.69
Dividend Yield	NA
FY End	DEC

Earnings Per Share

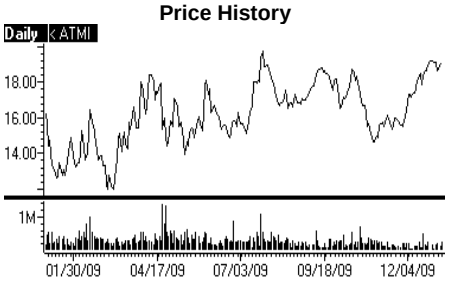
	2008A	2009E	2010E
Q1	$0.32	-$0.36 A	$0.08
Q2	$0.30	-$0.04 A	$0.13
Q3	$0.21	$0.17 A	$0.27
Q4	-$0.07	$0.10 E	$0.27
Year	$0.77	-$0.13 E	$0.75
P/E	24.6x	n.m.	25.1x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$92.8	$37.4 A	$70.0
Q2	$89.5	$60.1 A	$75.0
Q3	$86.7	$72.6 A	$85.0
Q4	$70.1	$73.0 E	$85.0
Year	$339.1	$243.1 E	$315.0
P/S	1.79x	2.45x	1.93x

Price History



Source: Thomson One

The Company

ATMI is a leading supplier of enabling materials and process technology to the semiconductor, display and life sciences industries. In its primary semiconductor market, ATMI focuses its activities specifically on the specialty materials market for front-end chip manufacturing processes. Prior to 2004, the company had a significant equipment/services business, but management made a strategic decision to exit that business, which had lower margins. The successful implementation of this plan has established ATMI as one of the few pure plays in the semiconductor materials market. The company's revenues are driven by chip unit demand and wafer starts. Over the past few years, ATMI has been focused on expanding its copper-related businesses, which are growing faster than the industry average. The company's differentiated product portfolio, continued innovation, and strong margins have generated strong and steady growth. ATMI, Inc. was founded in 1986 and is headquartered in Danbury, Connecticut.

Investment Thesis

The semiconductor industry has been among the fastest growing industries over the past 50+ years. As far as technology is concerned, the industry has kept on a path of phenomenal growth by doubling the number of transistors every 18 months since 1965 (as predicted by Moore's Law). Most of this growth has been achieved by shrinking the minimum line-width of transistors. As geometries shrink below nano-dimensions (100 nanometers), scientists and engineers must make significant changes in the materials that have been traditionally used in semiconductor processing. We believe major changes in materials will be needed to drive the next leg of growth in semiconductor technology and keep it on the path of Moore's Law. As a leading enabler of advanced materials and processing to the semiconductor industry, we believe ATMI stands to gain significantly from the growing importance and increasing adoption of newer materials.

Recent Developments

ATMI reported Q3 operating EPS of $0.17 on revenues of $72.6 million. Revenues improved 21% sequentially and were better than expected primarily due to strong growth in overall wafer starts, strength in copper-related products and an improved inventory situation in the company's SDS (Safe Delivery System) product line. While we expect December and March quarters to be seasonally weak for wafer starts, our channel checks continue to indicate a milder downtick than we expected at the beginning of the December quarter. Our earlier assumptions had called for a 5% sequential decline in wafer starts in the December and March quarters, but we would not be surprised if they are down only in the 3% range. Beyond the seasonally weak March quarter, we expect wafer starts to improve meaningfully and, as a result, expect CY10 and CY11 to be much better years than CY09, which should be a continued positive for business. Historically, the stock has traded within a price-to-forward EPS multiple range of 20x-30x. Our $23 price target is based on a 20x multiple to our CY11 earnings estimate of $1.15. There is risk to our estimates and price target if the ongoing recovery in the semiconductor food chain stalls. We rate the shares a **BUY**.

Brush Engineered Materials Inc. (BW)

Headquarters: Mayfield Heights, OH
Website: www.beminc.com.

Rating	**BUY**
Current Price	$21.23
Price Target	$24
52 Wk Price Range	$27.06 -$6.98
Avg Daily Vol	179,380
Market Capitalization	$434 M
Shares Outstanding	20.42 M
Cash	$26.9 M
Cash/Share	$1.32
Debt/Capital	3%
Book Value	$344.0 M
Book Value/Share	$16.85
Dividend Yield	NA
FY End	DEC

Earnings Per Share

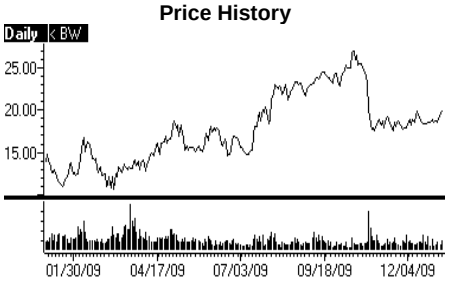
	2008A	2009E	2010E
Q1	$0.35	-$0.36 A	$0.00
Q2	$0.53	-$0.04 A	$0.13
Q3	$0.41	$0.01 A	$0.32
Q4	$0.13	$0.03 E	$0.25
Year	$1.43	-$0.37 E	$0.70
P/E	14.9x	n.m.	n.m.

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$226.3	$135.4 A	$185.0
Q2	$246.6	$174.1 A	$200.0
Q3	$240.5	$190.5 A	$220.0
Q4	$196.3	$200.0 E	$210.0
Year	$909.7	$700.0 E	$815.0
P/S	0.48x	0.62x	0.54x

Price History



Source: Thomson One

The Company

Brush is the only fully integrated producer of beryllium and beryllium alloys. Due to its unique properties, beryllium has been able to address key technological challenges in the semiconductor, electronics, industrial, defense, and several other industries. Brush also manufactures and fabricates other precious and specialty metal products that are going into semiconductors, data storage, aerospace, oil & gas and several other industries. Almost 60% of the company's business is exposed to the telecommunications, computer and data storage markets, while the remaining 40% is exposed to industrial, aerospace, defense, automotive and other markets.

Investment Thesis

Beryllium has unique properties as it is stiffer than steel but lighter than aluminum. Along with excellent mechanical properties, beryllium also exhibits high electrical/ thermal conductivity and a very high resistance to corrosion. Given the unique properties of its beryllium/beryllium alloys and other advanced metals/alloys, we believe Brush will see increasing adoption of these high-performance materials in several applications ranging from electronics to aerospace and defense. We believe Brush, with its unique position as the only fully integrated producer of beryllium, its exposure to high growth markets (telecommunications, perpendicular/optical media, oil & natural gas, heavy equipment), and its expanding global business, is poised for long-term growth.

Recent Developments

BW reported Q3 operating EPS of $0.01 on revenues of $190.5 million (+9% from Q2:09 and -21% from Q3:08). While results were in line with guidance (revenues of $180-$190 million and a slight profit), the EPS was below optimistic consensus expectations of $0.08 due to delayed shipments for some high-margin defense products, manufacturing issues and acquisition-related costs. BW generates almost 60% of its revenues from sales of materials into the semiconductor and electronics food chain, which is expected to experience continued improvement in the fourth quarter. As a result, the company issued Q4 revenue guidance of $195-$205 million. After improving significantly from extremely low levels over the past six months, demand in the semiconductor and electronics segment could experience some seasonality in the March quarter, but we expect CY10 and CY11 to be meaningfully better years than CY09, which should be a continued positive for business.

BW has had a very good track record of relatively small but accretive acquisitions (four in the 2005-2008 timeframe). In the fourth quarter of 2009, it completed the acquisition of privately held Barr Associates, Inc. and announced the acquisition of Academy Corporation. Both acquisitions will add to the company's fastest growing division, Williams Advanced Materials Inc., which is a non-beryllium business levered to the semiconductors and electronics segment. We expect revenues from these acquisitions to add roughly 3%-4% to growth and be accretive to earnings in CY10. Additionally, the Department of Defense has agreed to provide almost 85% funding for a $90 million primary beryllium facility for Brush, which is targeted for completion in 2010. While the stock has traded above 20x price to forward earnings several times over the past five years, our $24 price target has been based on a conservative 15x multiple to our CY11 earnings estimate. We rate the shares a **BUY** and pitch BW as our **Best Idea** for the year 2010. There is risk to our earnings estimates and price target if the ongoing economic recovery stalls.

Cabot Microelectronics Corp. (CCMP)

Headquarters: Aurora, IL
Website: www.cabotcmp.com

Rating	**BUY**
Current Price	$33.17
Price Target	$45
52 Wk Price Range	$36.38 -$18.47
Avg Daily Vol	134,030
Market Capitalization	$771 M
Shares Outstanding	23.25 M
Cash	$200.0 M
Cash/Share	$8.60
Debt/Capital	1%
Book Value	$470.7 M
Book Value/Share	$20.25
Dividend Yield	NA
FY End	SEP

Earnings Per Share

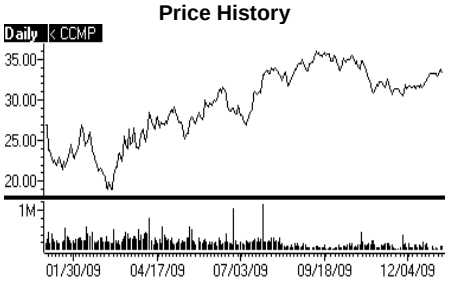
	2009A	2010E	2011E
Q1	$0.01	$0.41 E	$0.38
Q2	($0.34)	$0.35 E	$0.42
Q3	$0.39	$0.42 E	$0.54
Q4	$0.52	$0.42 E	$0.56
Year	$0.58	$1.60 E	$1.90
P/E	56.7x	n.m.	17.5x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2009A	2010E	2011E
Q1	$63.0	$92.0 E	$95.0
Q2	$45.4	$88.0 E	$100.0
Q3	$86.4	$95.0 E	$110.0
Q4	$96.5	$95.0 E	$110.0
Year	$291.4	$370.0 E	$415.0
P/S	2.6x	2.1x	1.9x

Price History



Source: Thomson One

The Company

CCMP is the leading supplier of high-performance polishing slurries that are used in the manufacturing of advanced semiconductor chips, hard disk drives, and magnetic heads. The company is using its leadership position and technology know-how to attack adjacent markets such as CMP pads and surface finishing in the flat panel display, healthcare, and high precision optics industries.

Investment Thesis

Cabot Microelectronics Corp. is the leading supplier of high performance polishing slurries used as consumables in the manufacturing of advanced semiconductor chips, hard disk drives, and magnetic heads. The company has almost a 45% share of this roughly $700 million market. Over the past few years, Cabot has been working on penetrating the adjacent CMP pads business, which is close to a $500 million market dominated by Rohm & Haas. After a few failed attempts, the company is now attacking this market with its differentiated product offering and, as a result, has already grabbed a 5% share of the market. We see the company growing its market share in the pads business to at least 20% over the next few years. Additionally, through acquisitions, CCMP has expanded into the Surface Finishing business in the non-semiconductor markets, which, while still relatively small, we expect to add to future growth. As performance needs of semiconductor devices grow and the drive to make smaller and faster devices continues, we believe the percentage of devices that utilize CMP in their manufacturing processes will also continue to grow. Additionally, given CCMP's initiative to get into newer markets and ongoing traction into the pads business, we expect the company to grow at a higher rate than the growth in semiconductor units or wafer starts.

Recent Developments

CCMP reported Q4:FY09 operating EPS of $0.52 on revenues of $96.5 million. Revenues were up 12% sequentially as strong wafer starts, particularly from logic device manufacturers, drove significant upside in the quarter. Beyond wafer starts, we have been highlighting the new opportunity from the company's traction into the polishing pads business, which continues to grow and accounted for 7% of revenues in the quarter as CCMP added three new applications. While we expect December and March quarters to be seasonally weak for wafer starts, our channel checks continue to indicate a milder downtick than we expected at the beginning of the December quarter. Our earlier assumptions had called for a 5% sequential decline in wafer starts in the December and March quarters but we would not be surprised if wafer starts are down only in the 3% range. Beyond the seasonally weak March quarter, we expect wafer starts to improve meaningfully and, as a result, expect CY10 and CY11 to be much better years than CY09, which should be a continued positive for business. CCMP has done a great job of improving its operating model, which has resulted in very significant earnings leverage.

In late November, **Applied Materials** (**AMAT* – BUY - $14.01)** announced its new CMP platform the Reflexion® GT is expected to cut slurry consumption by 30%. We believe this announcement has lead to the relative underperformance of CCMP compared to other semiconductor materials stocks. Given our understanding that less than a handful of these tools have sold thus far, we do not expect any near-term impact from this tool. The claimed slurry reduction still needs to be proven in the field. In the longer run, we point out that similar improvements were achieved when the industry moved from 200mm to 300mm tools, but as the number of layers to be polished and overall wafer starts have continued to grow, the slurry industry has continued on its long-term 8%-10% growth profile. In the near-term, our channel checks indicate that Q4 wafer starts at TSMC (TSM- $11.11) could be down less than 1% sequentially and their current internal forecast calls for a flattish Q1. This is relatively better than our overall wafer starts assumptions. We believe a close to 20% exposure to TSMC should be a relative positive for CCMP in the near-term. Our $45 price target is based on a 22x multiple to our CY11 earnings estimate of $2.04. We rate the shares a **BUY** and, given the recent underperformance, **expect the stock to outperform its peer group going into the December quarter reporting**. There is risk to our estimates and price target if the ongoing recovery in the semiconductor food chain stalls.

Ceradyne, Inc. (CRDN)

Headquarters: Costa Mesa, CA
Website: www.ceradyne.com

Rating	**NEUTRAL**
Current Price	$19.25
Price Target	$20
52 Wk Price Range	$25.07 - $14.27
Avg Daily Vol	222,760
Market Capitalization	$499 M
Shares Outstanding	25.9 M
Cash	$225.6 M
Cash/Share	$8.71
Debt/Capital	11%
Book Value	$644.5 M
Book Value/Share	$24.87
Dividend Yield	NA
FY End	DEC

Earnings Per Share

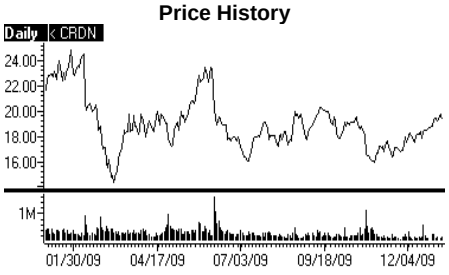
	2008A	2009E	2010E
Q1	$1.20	$0.03 A	$0.10
Q2	$1.25	$0.04 A	$0.14
Q3	$1.04	$0.26 A	$0.20
Q4	$0.87	$0.25 E	$0.24
Year	$4.38	$0.58 E	$0.68
P/E	4.4x	n.m.	28.2x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$188.5	$99.8 A	$90.0
Q2	$185.0	$95.3 A	$95.0
Q3	$167.7	$108.0 A	$100.0
Q4	$138.9	$105.0 E	$105.0
Year	$680.2	$408.0 E	$390.0
P/S	0.76x	1.22x	1.30x

Price History



Source: Thomson One

The Company

Ceradyne is a leading manufacturer of advanced technical ceramic products and components for defense, industrial, solar, nuclear, automotive/diesel, and commercial applications. The company experienced strong revenue growth in recent years (65% CAGR from 2002 to 2007) primarily from body and side armor sales, but revenues have been coming down since, as armor sales have declined.

Investment Thesis

We believe high-strength lightweight ceramic materials and composites will continue to replace traditional structural and commercial materials in several niche applications. As a producer of advanced ceramics, Ceradyne should be the prime beneficiary of this trend. With the striking success of its advanced ceramic materials in defense-related applications (especially body and side armor), Ceradyne has a proven technology platform ready for adaptation and deployment into diverse industrial, consumer, energy, and high-tech markets. The company has also been proactive in expanding its non-defense business through acquisitions. As a result, defense revenues in CY08 came down to 61% of total revenues versus 76% in CY06. We expect the defense contribution to decline to less than 50% of the overall business by the end of CY09. While we expect continued growth in non-defense businesses, such as fused silica ceramic crucibles for melting silicon for solar, nuclear waste containment and semiconductor materials, investors need to be patient, as this is always a time consuming process.

Recent Developments

CRDN reported Q3 operating EPS of $0.26 on revenues of $108 million. GAAP EPS for the quarter came in at $0.19 due to a $1.8 million charge from auction rate securities losses. Backlog stood at $156 million at the end of 3Q09 versus $164 million at the end of 2Q09 and $175 million at the end of 3Q08. During Q3 reporting, CRDN adjusted its CY09 EPS guidance down from $0.70 to $0.60 and revenue guidance came down from $420-$440 million to $410-$415 million. The company issued preliminary CY10 guidance with an EPS range of $0.60-$1.05 on revenues of $380-$430 million. We believe CY09 and CY10 will be transition years for CRDN as it grows its non-defense footprint to offset the decline in its core defense business. As a result, we expect growth to be elusive until CY11. CRDN has been trading within a price-to-forward EPS range of 8x-17x over the past four years. We have applied a 15x multiple to our CY11 EPS estimate of $1.30 to arrive at a $20 price target, which is very close to its current tangible book value of $19.68 per share. While valuation may provide some support to the stock, lack of growth in 2010 does not provide any compelling reason for owning the stock in the near-term. We rate the shares a **NEUTRAL**. We see risk to our estimates if the company's penetration into non-defense markets slows down and there is a bigger than expected decline in the defense business.

Dynamic Materials Corp. (BOOM)

Headquarters: Boulder, CO
Website: www.dynamicmaterials.com

Rating	**BUY**
Current Price	$21.65
Price Target	$26
52 Wk Price Range	$23.17 -$4.95
Avg Daily Vol	182,577
Market Capitalization	$274 M
Shares Outstanding	12.6 M
Cash	$30.03 M
Cash/Share	$2.37
Debt/Capital	26%
Book Value	$132.2 M
Book Value/Share	$10.45
Dividend Yield	0.7%
FY End	DEC

Earnings Per Share

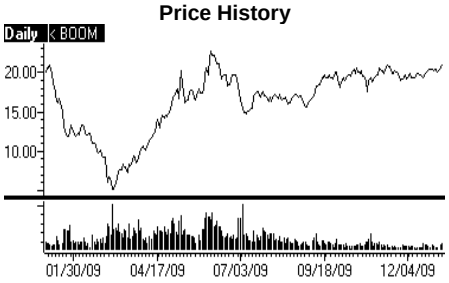
	2008A	2009E	2010E
Q1	$0.42	$0.38 A	$0.08
Q2	$0.49	$0.12 A	$0.12
Q3	$0.45	$0.08 A	$0.22
Q4	$0.43	$0.12 E	$0.28
Year	$1.79	$0.70 E	$0.70
P/E	12.1x	n.m.	30.9x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$58.4	$49.8 A	$37.0
Q2	$63.2	$37.8 A	$39.0
Q3	$52.4	$34.7 A	$42.0
Q4	$58.6	$41.0 E	$46.0
Year	$232.6	$163.3 E	$164.0
P/S	1.17x	1.68x	1.72x

Price History



Source: Thomson One

The Company

Dynamic Materials Corporation is the leading provider of explosion-welded clad metal plates. Due to their highly corrosion resistant nature, explosion welded metals have found wide ranging applications in a variety of high-growth industries, such as oil refining, chemical and petrochemical, hydrometallurgy, aluminum production, shipbuilding, power generation, industrial refrigeration and alternative energy.

Investment Thesis

Dynamic Materials is a leader in the explosion clad welded metals market with roughly 42%-48% of the worldwide market share. Explosion-weld cladding uses an explosive charge to bond together plates of different metals that do not bond easily with traditional welding techniques. Explosion welding is a unique process that retains the original properties of the metals that are bonded. Apart from providing an elegant solution, this process tends to save cost as a thin layer of expensive corrosion resistant metal could be welded with a structurally sound, but relatively inexpensive material. Approximately ten years ago, Dynamic Materials was heavily exposed to the petrochemical industry. While the company still has a significant exposure to the oil & gas industry (40%-45% we believe), the adoption of its explosion clad material has grown into other industries such as hydrometallurgy, aluminum production, shipbuilding, power generation, industrial refrigeration and alternative energy. Overall, we believe the explosion clad market has grown from $160 million in 2004 to close to $450 million in 2008. We expect 2009 and 2010 to be challenging years for the industry but growth should return in 2011 and beyond. As a leader in the explosion clad market, we expect Dynamic Materials to benefit from the growing adoption of these materials in various industries.

Recent Developments

BOOM reported Q3 EPS of $0.08 on revenues of $34.7 million (-8% from Q2:09 and -34% from Q3:08). After dropping for four quarters, backlog at the end of Q3 improved to $63 million compared to $57 million at the end of Q2. While the company does not give out explosion clad bookings numbers, our estimates indicate that Q3 bookings were close to $33 million, which was more than double Q2 levels of $15 million. We would point out that, of the $33 million in Q3 bookings, almost $15 million was driven by two large orders related to the Gorgon natural gas project. While BOOM continues to bid on larger oil & gas projects, the timing of those orders remains uncertain. In the absence of some large orders in Q4, we would not be surprised if the company's explosion clad backlog comes down once again. As a result, we expect BOOM to enter CY10 with a significantly lower backlog than at the beginning of CY09, but expect a sequential improvement in 2010 versus a sequential decline in 2009. Given our expectations of a modest backlog, we are conservatively modeling CY10 estimates at $0.70 on $164 million (flat year-over-year). Beyond 2010, we expect BOOM to be the key beneficiary of the growing need for corrosion protection in various industries, including oil and natural gas. Our $26 price target is based on a 20x multiple to our CY11 EPS estimate of $1.30. While longer-term investors will gain from the company's strong earnings potential in CY11, we do not expect Q4 reporting to be a positive catalyst for the stock. We rate the shares **BUY.** There is risk to our earnings estimate and price target if the ongoing economic recovery stalls.

Entegris (ENTG)

Headquarters: Chaska, MN
Website: www.entegris.com

Rating	**BUY**
Current Price	$5.23
Price Target	$8
52 Wk Price Range	$5.75 - $0.50
Avg Daily Vol	1,109,860
Market Capitalization	$602 M
Shares Outstanding	115.0 M
Cash	$78.38M
Cash/Share	$0.68
Debt/Capital	18%
Book Value	$338.0 M
Book Value/Share	$2.94
Dividend Yield	NA
FY End	DEC

Earnings Per Share

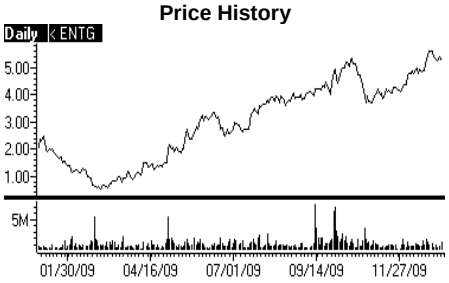
	2008A	2009E	2010E
Q1	$0.03	-$0.26 A	$0.05
Q2	$0.04	-$0.15 A	$0.06
Q3	$0.04	-$0.05 A	$0.08
Q4	-$0.14	$0.06 E	$0.06
Year	-$0.02	-$0.38 E	$0.25
P/E	n.m.	n.m.	21.3x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$148.2	$59.0 A	$125.0
Q2	$147.9	$82.6 A	$130.0
Q3	$145.8	$110.7 A	$140.0
Q4	$112.7	$120.0 E	$130.0
Year	$554.7	$372.3 E	$525.0
P/S	1.07x	1.64x	1.16x

Price History



Source: Thomson One

The Company

Entegris is the leader in materials integrity management for the semiconductor and other leading-edge manufacturing processes. The company's products include fluid and gas handling components, liquid and gas filters and purifiers, and carriers and shippers for wafers and data storage components.

Investment Thesis

Entegris provides enabling solutions to control the quantity, purity and flow of liquids and gases used in semiconductor manufacturing and other leading-edge processes. The company's products also help in sensitive microenvironment control and efficient transportation of wafers and data storage components. More than 70% of the company's sales are driven by unit growth and wafer starts that have started to improve after a precipitous drop. Additionally, the capital spending cycle is improving, which should be positive for Entegris' capital expenditure driven business. As semiconductor device geometries shrink, and more new materials get introduced, there is a growing emphasis on materials integrity management in order to maintain process parameters, save costs, and improve yield. As a leading enabler of materials integrity management components, Entegris stands to gain significantly from this trend.

Recent Developments

ENTG reported Q3 operating EPS of $(0.05) on revenues of $110.7 million (+34% from Q2:09 and -24% from Q3:08). Earnings had a negative $0.04 impact due to foreign exchange rate changes but, excluding that impact, numbers were significantly stronger than expectations. Close to 30% of revenues at ENTG are driven by semiconductor capital spending. On average, equipment companies such as KLA-Tencor (KLAC - $36.57), Lam Research (LRCX* - $39.36), **Novellus Systems (NVLS* – BUY - $23.38)**, and Varian Semiconductor (VSEA – $35.90) are currently projecting Q4 revenues to be up 40% from Q3 levels. The remaining 70% of the business comes from the sale of consumables driven by wafer starts. While we expect December and March quarters to be seasonally weak for wafer starts, our channel checks continue to indicate a milder downtick than we expected at the beginning of the December quarter. Our earlier assumptions had called for a 5% sequential decline in wafer starts in the December and March quarters, but we would not be surprised if wafer starts are down only in the 3% range. Assuming the capital equipment business of ENTG is up 40% sequentially in Q4 and wafer starts are down 3%, we are very comfortable with our Q4 estimates of $0.06 on $120 million. We believe the equipment business of ENTG will help the company outperform its pure semiconductor materials peers in the December and March quarters and that we are in the early stages of a recovery in the semiconductor cycle, and CY10 and CY11 will be much better years than CY09. With the recovery in the semiconductor food chain, ENTG should also benefit from its improving operations, a better balance sheet, and regaining some lost market share in the wafer shipping business. Our $8 price target is based on an 18x multiple to our CY11 EPS estimate of $0.45. We rate the shares **BUY.** There is risk to our estimates and price target if the ongoing recovery in the semiconductor food chain stalls.

Hexcel Corp. (HXL)

Headquarters: Stamford, CT
Website: www.hexcel.com

Rating	**BUY**
Current Price	$13.72
Price Target	$18
52 Wk Price Range	$14.08 - $4.49
Avg Daily Vol	742,920
Market Capitalization	$1,346 M
Shares Outstanding	98.1M
Cash	$94.70M
Cash/Share	$0.97
Debt/Capital	40%
Book Value	587.5 M
Book Value/Share	$5.99
Dividend Yield	NA
FY End	DEC

Earnings Per Share

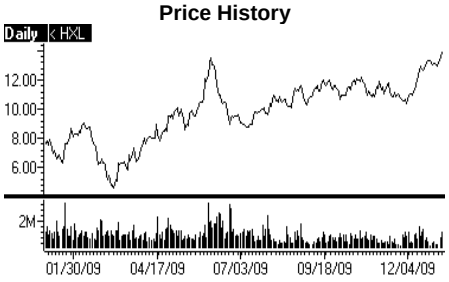
	2008A	2009E	2010E
Q1	$0.23	$0.24 A	$0.08
Q2	$0.21	$0.18 A	$0.13
Q3	$0.22	$0.10 A	$0.19
Q4	$0.16	$0.07 E	$0.20
Year	$0.82	$0.59 E	$0.60
P/E	16.8x	23.4x	22.8x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$344.5	$307.3 A	$240.0
Q2	$359.5	$277.3 A	$260.0
Q3	$331.4	$257.1 A	$300.0
Q4	$289.5	$240.0 E	$310.0
Year	$1,324.9	$1,081.7 E	$1,110.0
P/S	1.01x	1.24x	1.22x

Price History



Source: Thomson One

The Company

Hexcel Corp. is one of the world's leading providers of lightweight, high-performance advanced composites, used in commercial aerospace, industrial (including wind) and space & defense applications. Space & defense has been an early adopter of such composites, but significant growth is expected from commercial aircrafts and larger wind turbines.

Investment Thesis

Hexcel Corp. is one of the world's leading providers of lightweight, high-performance advanced composites, used in commercial aerospace, industrial (including wind) and space & defense applications. Commercial aerospace was close to 54% of revenues in CY08 while space & defense and industrial segments were each 23% of revenues. We believe the underlying long-term growth trend for Hexcel will be driven by higher adoption of composites in new generation commercial aircraft. While early generation of commercial aircrafts such as B707, B767 and B777 had nominal amounts of composites by weight (0%-11%), newer aircrafts such as A380, B787 and A350 are being designed with 23%-52%. Wind is currently less than 15% of Hexcel's revenues but growth could be strong once past the current economic downturn. The drive towards larger wind turbines has been a key catalyst for using lightweight and high-strength composites. We believe adoption into sporting and recreational gears, automobiles, high-speed rails, and marine applications could also be a meaningful growth driver.

Recent Developments

HXL reported Q3 operating EPS of $0.10 on revenues of $257.1 million (-7.3% from Q2:09 and -22.4% from Q3:08). We expect business to remain challenging in the near-term due to inventory management by its key aerospace and wind customers, weakness in regional and business aircraft markets, and credit market impacts on the company's industrial customers. While Hexcel does not issue specific guidance, given continued talk about reducing the number of work days and other cost cutting efforts, we would not be surprised if Q4 revenues were down from Q3 levels. We upgraded HXL from a Neutral to a Buy on 12/10/2009 due to attractive valuation and anticipation of some positive news on the **Boeing** 787 **(BA - NEUTRAL - $62.20)** front. While we continue to expect CY10 to be a flattish year versus CY09, some recent developments on the key Boeing 787 plane bode well for the future growth of the composite business at Hexcel. After being delayed by two years, two Boeing 787 planes successfully completed their first flights in December 2009. While we realize that, due to the existing inventory of materials for this program in the food chain, business may take at least 3-4 quarters to improve, we believe these successful flights provide more confidence in a strong CY11 for HXL. Based on the company's exposure to commercial aerospace, industrial, and space & defense, we have used a sum-of-parts valuation metric that presently implies a close to 11x EV/EBITDA multiple for the stock. Assuming no further multiple expansion, we are applying an 11x EV/EBITDA multiple to our CY11 estimates and discounting that by 20% to arrive at our $18 price target. Our target also implies a reasonable 19x multiple to our current CY11 EPS estimate. We rate the shares **BUY**. There is risk to our estimates and price target if delivery schedules for some of the key aerospace programs such as the Boeing 787 are pushed out.

II-VI Inc. (IIVI)

Headquarters: Saxonburg, PA
Website: www.ii-vi.com

Rating	**BUY**
Current Price	$31.48
Price Target	$38
52 Wk Price Range	$34.29 -$14.91
Avg Daily Vol	125,270
Market Capitalization	$941 M
Shares Outstanding	29.88 M
Cash	$105.5 M
Cash/Share	$3.53
Debt/Capital	1%
Book Value	$333.2 M
Book Value/Share	$11.15
Dividend Yield	NA
FY End	JUN

Earnings Per Share

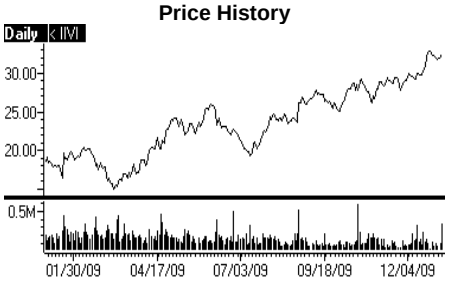
	2009A	2010E	2011E
Q1	$0.45	$0.21 A	$0.32
Q2	$0.28	$0.21 E	$0.34
Q3	$0.23	$0.25 E	$0.25
Q4	$0.21	$0.27 E	$0.40
Year	$1.17	$0.95 E	$1.41
P/E	26.8x	33.3x	96.9x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2009A	2010E	2011E
Q1	$87.8	$65.5 A	$93.0
Q2	$74.3	$69.0 E	$95.0
Q3	$64.1	$83.0 E	$95.0
Q4	$66.1	$88.0 E	$100.0
Year	$292.2	$305.5 E	$383.0
P/S	3.2x	3.2x	2.6x

Price History



Source: Thomson One

The Company

II-VI Inc. is the world's leading manufacturer of infrared laser optical elements. Over time, the company has expanded its served available market by using its crystal growth know-how to get into adjacent markets, such as near-infrared optics, military infrared optics, and others. These components (mostly consumable) go into laser systems that are used for cutting, welding, heat-treating, marking, and engraving operations in the industrial, defense, medical, and other industries.

Investment Thesis

II-VI Inc. is the world's leading manufacturer of infrared laser optical elements. The company has a roughly 35% share of this $450 million worldwide market. In our view, materials are undoubtedly at the heart of the company's differentiated technology. II-VI has accumulated strong intellectual property and technological know-how to develop, manufacture, and coat complex materials from the periodic table. The company is fully vertically integrated, as it has in-house capability to grow crystals of materials it uses, fabricate parts out of those crystals, coat them, conduct quality checks, and finally, assemble them. Additionally, the company has expanded into adjacent markets such as near-infrared optics, military infrared optics, and others, which has expanded the company's served available market to ~$1.5 billion. Today, the adoption of lasers is growing in precision manufacturing of industrial components, welding of automotive parts, marking of pharmaceutical packaging, and numerous other applications. We believe II-VI will be the primary beneficiary of the growing installed base of lasers in existing applications and their increasing adoption in newer applications. II-VI has grown its revenues at an approximate 19% CAGR over the past 20 years and has been profitable every year since 1973.

Recent Developments

IIVI reported 1Q:FY10 EPS of $0.21 on revenues of $65.5 million (-0.8% from Q4:FY09 and -25% from Q1:FY08). While revenues were down slightly from the June 2009 quarter, bookings were up 28% from $57.2 million to $73.3 million and backlog was up from $103.4 million to $111.2 million. Backlog improved after declining for four consecutive quarters. In early January, IIVI completed the acquisition of Photop Technologies, Inc., a company headquartered in Fuzhou, China with over 3,000 employees. The acquisition is valued at close to $95 million, consisting of $45.6 million in cash, 1,146,000 shares of IIVI stock, and a possible $12 million in cash earn-out based on achieving certain financial targets in CY10 and CY11. Photop is a vertically-integrated manufacturer of engineered materials, optical components, microchip lasers for visible display applications, and optical modules for use in fiber optic communication networks and other diverse consumer and commercial applications. While the company did not provide a lot of detail in terms of the margin profile of the acquired business, based on our assumptions of a similar margin structure as the near-infrared business of IIVI, we updated our estimates for FY10 and FY11. We raised our FY10 and FY11 revenue estimates from $275.5 million and $333 million to $305.5 million and $383 million, respectively, primarily due to the contribution from Photop. Given the lack of visibility into the margin profile of Photop, we are conservatively leaving our FY10 and FY11 EPS estimates unchanged at $0.95 and $1.41, respectively. With ISM manufacturing numbers improving for five consecutive months, we expect a gradual recovery in business going forward. IIVI has had one of the best long-term performances within our coverage universe and, as a result, the stock receives a premium multiple compared to its peers. Over the past five years, the stock has traded between 16x and 27x forward 12-month earnings. We continue to apply a 23x multiple to our CY11 earnings estimate of $1.65 to arrive at a $38 price target. We rate the stock a **BUY.** There is risk to our estimates and price target if the ongoing recovery in global manufacturing activity stalls.

IPG Photonics Corp. (IPGP)

Headquarters: Oxford, MA
Website: www.ipgphotonics.com

Rating	**BUY**
Current Price	$17.20
Price Target	$20
52 Wk Price Range	$17.62 - $6.79
Avg Daily Vol	114,350
Market Capitalization	$803 M
Shares Outstanding	46.70 M
Cash	$76.3 M
Cash/Share	$1.63
Debt/Capital	6%
Book Value	$253.2 M
Book Value/Share	$5.42
Dividend Yield	NA
FY End	DEC

Earnings Per Share

	2008A	2009E	2010E
Q1	$0.18	$0.10 A	$0.05
Q2	$0.19	-$0.03 A	$0.09
Q3	$0.21	$0.05 A	$0.14
Q4	$0.19	$0.07 E	$0.17
Year	$0.77	$0.19 E	$0.45
P/E	22.4x	n.m.	38.2x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$52.9	$45.4 A	$46.0
Q2	$56.0	$40.4 A	$50.0
Q3	$62.0	$45.8 A	$54.0
Q4	$58.2	$48.0 E	$56.0
Year	$229.1	$179.6 E	$206.0
P/S	3.51x	4.47x	3.90x

Price History

Source: Thomson One

The Company

IPG Photonics Corp. is the leading provider of fiber lasers for materials processing, advanced applications, medical and communications markets. The company pioneered the development and commercialization of optical fiber-based lasers by solving some critical materials and processing issues. Fiber lasers are penetrating new applications and are starting to take market share from other laser-based solutions by delivering superior performance, reliability and usability at a lower total cost of ownership.

Investment Thesis

IPGP is the industry leader in the ~$300 million fiber laser market (in 2008) with close to a 70% market share. Fiber lasers present a significant performance, flexibility and cost of ownership advantage over traditional lasers. Fiber laser technology has emerged as a key enabler of leading edge laser applications in various industries. As a result, this is a significantly faster growing sub-segment of the overall industrial laser market. Revenues for IPGP have grown at a 48% CAGR from 2002 to 2008. According to Strategies Unlimited, the fiber laser market is expected to decline by 24% in CY09 versus a larger 32% decline in the overall laser market. Once past a tough CY09, we expect this market to grow at a 25% CAGR over the next few years versus a 10% CAGR in the overall laser market. As a pioneer and leading shareholder of this market, we expect IPG Photonics to significantly benefit from this trend.

Recent Developments

IPGP reported Q3 operating EPS of $0.05 on revenues of $45.8 million (+13.4% from Q2:09 and -26.1% from Q3:08). Revenue upside was driven primarily by strong sales of pulse lasers for marking and engraving applications in China. Gross margins improved significantly from 29.1% in Q2 to 36.5% in Q3 reflecting strong earnings leverage. Most importantly, book-to-bill remained above one for the second consecutive quarter. Management guided for Q4 EPS of $0.04-$0.09 on revenues of $44-$49 million, slightly better than the September quarter. We expect IPGP to experience very strong growth from an improving economy and growing adoption. The company should enjoy significant earnings leverage in CY11, with a reasonable 20% year-over-year revenue growth on top of a 15% year-over-year growth in CY10. Given strong growth and earnings leverage, we have been applying a 25x multiple to our CY11 earnings estimate of $0.80 to arrive at our 12-month price target of $20. We rate the shares **BUY** and continue to pitch IPGP as our **best growth idea**. There is risk to our earnings estimates and price target if there is a slowdown in the growing adoption of fiber lasers.

Polypore International, Inc. (PPO)

Headquarters: Charlotte, NC
Website: www.polypore.net

Rating	**BUY**
Current Price	$12.02
Price Target	$18
52 Wk Price Range	$14.10 - $2.38
Avg Daily Vol	232,870
Market Capitalization	$538 M
Shares Outstanding	44.7 M
Cash	$120.20 M
Cash/Share	$2.69
Debt/Capital	66%
Book Value	$412.7 M
Book Value/Share	$9.22
Dividend Yield	NA
FY End	DEC

Earnings Per Share

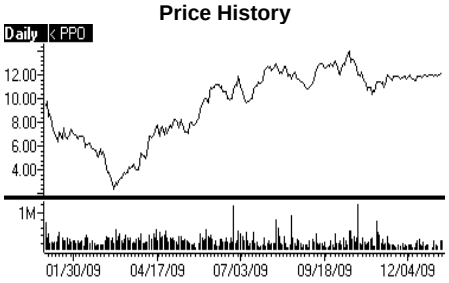
	2008A	2009E	2010E
Q1	$0.27	$0.09 A	$0.12
Q2	$0.27	$0.12 A	$0.19
Q3	$0.20	$0.17 A	$0.15
Q4	$0.22	$0.11 E	$0.19
Year	$0.96	$0.49 E	$0.65
P/E	12.6x	24.7x	18.4x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$145.3	$108.9 A	$120.0
Q2	$164.7	$118.2 A	$130.0
Q3	$154.9	$137.7 A	$125.0
Q4	$145.6	$130.0 E	$130.0
Year	$610.5	$494.8 E	$505.0
P/S	0.85x	1.08x	1.08x

Price History



Source: Thomson One

The Company

Polypore International is one of the world's leading providers of specialized polymer-based membranes (a thin and flexible sheet of material with microscopic pores), used for the separation of battery materials and removal (filtration) of various materials and ions from liquids in healthcare, industrial and other specialty applications.

Investment Thesis

Polypore is one of the leading suppliers of polymeric membranes (films) that are used as a separator in lead-acid and lithium-ion batteries. While the company's lead-acid business is the largest business segment, and a solid cash flow generator, we believe Li-ion is where the key growth opportunity lies. The lithium-ion battery market has experienced a 34% CAGR over the past 18 years, driven primarily by its adoption in the electronics industry. We expect further strong growth in power tools, lawn and garden tools and, ultimately, hybrid electric vehicles (HEVs) and electric vehicles (EVs). As the only major domestic producer of Li-ion battery separators, we believe Polypore is well positioned to gain from ongoing clean technology initiatives domestically and the growing effort towards independence from foreign oil. Polypore's last year's loss of customer Johnson Controls (JCI) in the lead-acid business has been the prime reason for reduced valuations. However, we believe Polypore can protect its leadership in this business even after this loss.

Recent Developments

PPO reported Q3 operating EPS of $0.17 on revenues of $137.7 million. Q3 upside was driven by the lead-acid (automotive) and lithium-ion (mostly electronics currently) businesses where revenues grew 25% and 13%, respectively, from Q2 levels. In the lead-acid business (~56% of revenues), PPO has not signed any definitive contract with its large customer Exide (XIDE - $7.78) thus far but expects to continue to supply to it with or without a contract. Management maintained their view that most of the growth in this segment is coming from Asia and, hence, PPO plans to reduce capacity in the U.S. which will result in a non-cash impairment charge. Polypore continues to execute on its plan to build out manufacturing capacity to support the lithium-ion battery market, particularly for Electric Drive Vehicles (EDVs). Recently Polypore received a Department of Energy stimulus grant of $49 million which it plans to use to build out capacity to support the lithium-ion battery demand for EDVs. In that vein, Polypore announced that it is the separator supplier for some of the recently introduced leading edge hybrid vehicles, such as the Mercedes S400 and Hyundai Avante (in Korea), that are early adopters of lithium-ion batteries. Additionally, PPO is working on more than 20 EDVs that are planned to be introduced by 2013. As the only major domestic producer of lithium-ion battery separators, we see solid long-term growth potential for Polypore as adoption of these batteries grows into various applications. Our $18 price target is based on a 20x multiple to our CY11 earnings estimate of $0.90. We rate the shares **BUY.** There is risk to our estimates and price target if the adoption and penetration of lithium-ion batteries is slower than expected. While we do not view this as a significant negative, there is additional perceived risk of an unfavorable decision on the ongoing Federal Trade Commission (FTC) litigation related to the company's acquisition of Microporous Products.

Rogers Corporation (ROG)

Headquarters: Rogers, CT
Website: www.rogers-corp.com

Rating	**BUY**
Current Price	$29.34
Price Target	$36
52 Wk Price Range	$32.07 -$14.60
Avg Daily Vol	72,210
Market Capitalization	$462 M
Shares Outstanding	15.7 M
Cash	$43.3 M
Cash/Share	$2.75
Debt/Capital	12%
Book Value	$275.7 M
Book Value/Share	$17.52
Dividend Yield	NA
FY End	DEC

Earnings Per Share

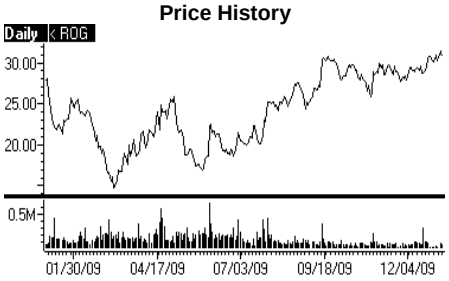
	2008A	2009E	2010E
Q1	$0.48	-$0.28 A	$0.08
Q2	$0.44	-$0.02 A	$0.24
Q3	$0.51	$0.44 A	$0.35
Q4	$0.47	$0.40 E	$0.38
Year	$1.90	$0.54 E	$1.05
P/E	15.4x	n.m.	27.9x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$102.3	$65.5 A	$72.0
Q2	$97.7	$67.4 A	$80.0
Q3	$101.7	$81.0 A	$88.0
Q4	$78.6	$78.0 E	$90.0
Year	$380.3	$291.9 E	$330.0
P/S	1.22x	1.58x	1.43x

Price History



Source: Thomson One

The Company

Founded in 1832, Rogers Corporation is one of the oldest publicly traded American companies in continuous operation. The company is a supplier of specialty materials (polymers and foams) and components (printed circuit boards and other) that are used in cellular phones, communications infrastructure, computer, office equipment, aerospace, defense, ground transportation, and consumer products. These specialty materials are grouped into four reportable segments: printed circuit materials, custom electrical components, high performance foams, and other polymer products.

Investment Thesis

Growing demand for electronic components (such as cellular phones, base stations, satellite television receivers, and automotive electronics) and their increasing performance requirements have lead to a higher adoption of advanced materials produced by Rogers Corporation. The company commands a 50% or greater market share in almost all of the leading-edge applications within each of its broad business segments, for which competition is quite fragmented. Although the company serves a global customer base, given the increasing shift of manufacturing to Asia, Rogers has been diligently focusing on growing its business in Asia. Almost 50% of its business is exposed to the electronics food chain, such as portable communication devices, communication infrastructure, and consumer electronics. The other half is exposed to end markets, such as ground transportation, aerospace, defense and consumer-related non-electronic items. New product development has been at the core of the company's growth strategy. To continue its leading innovation, ROG plans to spend more than 5% of its annual sales on research and development, focusing on improving existing technologies, finding new applications for existing products, and most importantly, developing a pipeline of value-added materials for high-growth end markets. We believe the company introduced almost 20 new products in 2009 and continues to have a strong pipeline, which bodes well for its future revenue growth.

Recent Developments

ROG reported Q3 operating EPS of $0.44 on revenues of $81 million (+20.3% from Q2:09 but -20.3% from Q3:08). The upside in Q3 was driven primarily by sales of high performance foams into the portable communications and consumer electronics market segments. Including a one-time acquisition related charge of $0.04, GAAP EPS for Q3 came in at $0.40. Management pointed out that, due to the celebration of National Day Golden Week in China, almost $3-$4 million of sales may have been pulled in from Q4 to Q3. Without this impact, Q4 revenues would have been flat versus Q3. On the earnings front, we believe ROG will continue to see the positive effect of its recently completed cost cutting initiatives, where it took out annual operating and overhead costs by $34 million. While some of the costs may come back in 2010 as the company reinstitutes some of the employee incentive programs, we continue to see strong earnings leverage in the model. With an improving economic environment, Rogers should enjoy significant earnings growth in CY10 and CY11 with a reasonable 14%-15% year-over-year revenue growth. Our $36 price target is based on a 20x multiple to our CY11 earnings estimate of $1.80. We rate the shares **BUY**. There is risk to our earnings estimates and price target if the ongoing recovery in the semiconductor and electronics food chain stalls.

RTI International Metals, Inc. (RTI)

Headquarters: Pittsburgh, PA
Website: www.rti-intl.com

Rating	**BUY**
Current Price	$29.16
Price Target	$34 ↑
52 Wk Price Range	$29.25 - $8.99
Avg Daily Vol	675,285
Market Capitalization	$719 M
Shares Outstanding	24.6M
Cash	$124.73 M
Cash/Share	$5.1
Debt/Capital	0%
Book Value	$735.6 M
Book Value/Share	$29.85
Dividend Yield	NA
FY End	DEC

Earnings Per Share

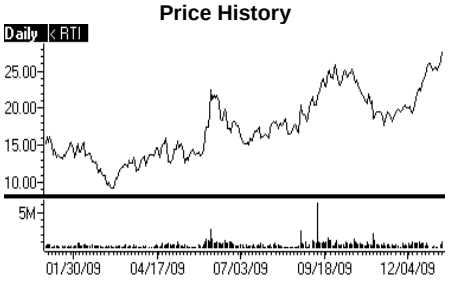
	2008A	2009E	2010E
Q1	$0.96	-$0.06 A	-$0.04
Q2	$0.81	$0.07 A	-$0.02
Q3	$0.49	-$0.12 A	-$0.02
Q4	$0.18	-$0.04 E	$0.03
Year	$2.44	-$0.16 E	-$0.05
P/E	12.0x	n.m.	n.m.

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$150.6	$106.1 A	$90.0
Q2	$159.8	$104.4 A	$90.0
Q3	$150.6	$100.2 A	$90.0
Q4	$148.8	$95.0 E	$95.0
Year	$609.9	$405.7 E	$365.0
P/S	1.10x	1.81x	2.45x

Price History



Source: Thomson One

The Company

RTI International Metals, Inc. is one of the world's leading producers of titanium. The company offers milled titanium products (materials) at various stages of processing and shapes that are finding their growing adoption in commercial aerospace, defense, energy, chemical, consumer, medical and several others industries. The company also supplies finished parts made out of titanium and other specialty alloys.

Investment Thesis

While the previous generation of commercial aircraft, such as the A320, B767, A330 and B737, used less than 50,000 pounds of titanium, newer commercial aircrafts, such as the A380, B787 and A350, are being designed with close to 200,000-250,000 pounds. On the Defense side, some of the planes, such as the C-17, F-22 Raptor and the Joint Strike Fighter (F-35), have 2-3 times more titanium than previous generations. Titanium is seeing its adoption in geothermal energy extraction and oil & natural gas production. Chemical processing, consumer and sporting goods are some of the other areas of growth.

Recent Developments

RTI reported weak Q3 operating EPS of $(0.12) on revenues of $100.2 million (-4% from Q2:09 and -33% from Q3:08). Including a $5.7 million charge related to debt repayment, GAAP EPS came in at $(0.35). Our channel checks continue to indicate that, given its customers' high inventory levels demand for milled titanium, it will take at least 3-4 quarters to improve and, as a result, milled product shipments could be down significantly in 2010. There are some positive signs on the pricing front as it appears to be stabilizing during the current quarter. While pricing may not rebound quickly, we do not expect any meaningful degradation in pricing from current quarter levels. After being delayed by two years, two **Boeing** 787 **(BA - NEUTRAL - $62.20)** planes successfully completed their first flights in December 2009. We realize that, due to the existing inventory of materials for this program in the food chain, business may take at least 3-4 quarters to improve but we believe these successful flights provide more confidence in a strong CY11 for RTI. While CY10 is expected to be a tough year, investors may look beyond it to some very strong long-term growth over the next several years. Over the past ten years, RTI has traded in a very wide range (5x-25x) of trailing 12-month EV/EBITDA multiples and 10x-30x forward price/earnings multiples. Our 12-month price target of $34 is based on a 22x multiple of our CY11 earnings estimate of $1.55. We arrive at the same $34 price target by applying a11x EV/EBITDA multiple to our CY11 estimates and discounting that by 20%. We rate the shares **BUY**. There is risk to our estimates and price target if there are further delays in some of the key aerospace programs.

Rubicon Technology, Inc. (RBCN)

Headquarters: Franklin Park, IL
Website: www.rubicon-es2.com

Rating	**NEUTRAL**
Current Price	$19.29
Price Target	$21
52 Wk Price Range	$22.00 - $3.12
Avg Daily Vol	248,750
Market Capitalization	$386 M
Shares Outstanding	20.03 M
Cash	$45.4 M
Cash/Share	$2.27
Debt/Capital	0%
Book Value	$97.6 M
Book Value/Share	$4.87
Dividend Yield	NA
FY End	DEC

Earnings Per Share

	2008A	2009E	2010E
Q1	$0.10	-$0.19 A	$0.04
Q2	$0.12	-$0.15 A	$0.06
Q3	$0.07	-$0.10 A	$0.07
Q4	-$0.09	-$0.01 E	$0.08
Year	$0.21	-$0.45 E	$0.24
P/E	92.7x	n.m.	n.m.

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$10.5	$2.3 A	$10.5
Q2	$11.5	$3.2 A	$12.5
Q3	$10.4	$5.7 A	$13.0
Q4	$4.0	$8.0 E	$14.0
Year	$36.5	$19.3 E	$50.0
P/S	11.59x	20.13x	9.79x

Price History

Source: Thomson One

The Company

Rubicon Technology Inc. is the leading supplier of sapphire substrates (wafers) for the Light Emitting Diodes (LEDs), Radio Frequency Integrated Circuits (RFICs), and other optical markets. Rubicon is a fully vertically integrated manufacturer of sapphire wafers in 2", 3", 4", and 6" diameters, and is currently working to expand its product portfolio to offer wafers in 8" and greater diameters for future generation applications. The company uses its proprietary "evolving science, evolving solutions" technology known as ES2™ to grow high purity, low-stress, and low-defect density sapphire crystals. The ability to grow larger size wafers with the least amount of defects is the key technology edge that the company has over its competitors.

Investment Thesis

Given the high growth and increasing adoption of LEDs in backlighting, displays, mobile devices, signals, automotive and general lighting, we expect the market for sapphire wafers to grow at a +20% CAGR once past the tough CY09. Rubicon's proprietary crystal growth technology enables significantly lower defect density, and its ability to produce large diameter wafers in high volume enables lower cost of production for its customers. Given these key advantages and its leadership position, we believe Rubicon is well positioned to gain from the upcoming growth in the adoption of LEDs.

Recent Developments

RBCN reported Q3 EPS of $(0.10) on revenues of $5.7 million (up from $3.2 million in Q2:09). For Q4, RBCN guided for EPS of $(0.05) on revenues of $7 million. After declining for some time, pricing stabilized in Q3 and is expected to improve in Q4. Recently, the company announced its plan to invest $60-$65 million on capacity expansion over the next two years, which will increase the annual revenue capacity to approximately $130 million. The company also filed a $100 million mixed shelf in conjunction with its investment plan. Clearly, we do not know if the company anticipates reaching full revenue capacity in the first year of full operations (2012) or some time beyond that, but we have tried to apply some basic assumptions to estimate peak capacity earnings. Our basis assumptions include: 1) A 5 million increase in share count from a $100 million equity offering; 2) No taxes, due to existing net operating losses (NOLs) and; 3) Strong 33% gross margins compared to 29.5% in CY08. However, we expect some margin pressure due to lower contribution from the high-margin 6-inch semiconductor business, growing competition from Asia, and the fact that RBCN is trying to get more of the wafer cutting and polishing business in-house, which has traditionally had lower margins. Based on these assumptions, we arrive at a full capacity EPS estimate of $1.05 per share. Our $21 price target is based on a 20x multiple to our full capacity estimate of $1.05. While long-term potential remains strong, given the limited information on the post capacity expansion model and the upcoming offering, we maintain our **NEUTRAL** rating on the stock. There is risk to our earnings estimates and price target if the expected strong growth in LEDs does not pan out.

Titanium Metals Corporation (TIE)

Headquarters: Dallas, TX
Website: www.timet.com

Rating	**BUY**
Current Price	$12.85
Price Target	$17 ↑
52 Wk Price Range	$13.00 - $4.04
Avg Daily Vol	2,786,410
Market Capitalization	$2,321 M
Shares Outstanding	180.6M
Cash	$143.60 M
Cash/Share	$0.80
Debt/Capital	0%
Book Value	$1,148.0 M
Book Value/Share	$6.36
Dividend Yield	NA
FY End	DEC

Earnings Per Share

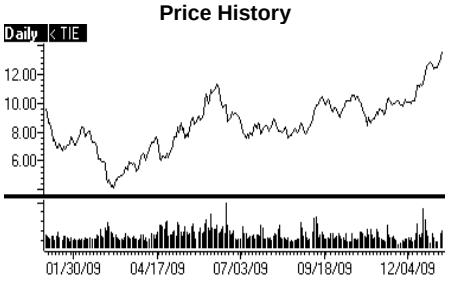
	2008A	2009E	2010E
Q1	$0.22	$0.11 A	$0.01
Q2	$0.26	$0.05 A	$0.02
Q3	$0.22	$0.01 A	$0.02
Q4	$0.12	$0.00 E	$0.05
Year	$0.82	$0.17 E	$0.10
P/E	15.7x	n.m.	n.m.

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$293.7	$203.4 A	$165.0
Q2	$297.3	$205.7 A	$165.0
Q3	$295.4	$181.4 A	$165.0
Q4	$265.2	$172.0 E	$190.0
Year	$1,151.6	$762.5 E	$685.0
P/S	2.04x	3.05x	3.40x

Price History



Source: Thomson One

The Company

Titanium Metals Corp. is currently the largest U.S. based producer of titanium. Titanium Metals' products include titanium sponge, melted products, mill products and industrial fabrications. With its unique combination of strength, light weight, corrosion resistance and other metallurgical properties, demand for these materials has been growing in various industries such as commercial aerospace, defense, energy, chemical, medical, desalination, pollution control and several others.

Investment Thesis

Commercial and Defense aerospace will be the key growth driver. While the early generation of commercial aircraft, such as the A320, B767, A330 and B737, used less than 50,000 pounds of titanium, newer commercial aircrafts, such as the A380, B787 and A350, are being designed with close to 200,000-250,000 pounds. On the Defense side, some of the planes, such as the C-17, F-22 Raptor and the Joint Strike Fighter (F-35), have 2-3 times more titanium than previous generations. Titanium is also seeing its adoption in geothermal energy extraction and oil & natural gas production. Chemical processing, consumer and sporting goods are some of the other areas of growth.

Recent Developments

TIE reported weak Q3 EPS of $0.01 on revenues of $181.4 million (-12% from Q2:09 and -39% from Q3:08). Management commented that demand remains low due to a weak global economy and production delays within the commercial aerospace sector where customers continue to reduce excess inventories. Average selling prices were also lower due to competitive pricing and declining raw material costs. Our channel checks continue to indicate that, given its customers' high inventory levels demand for milled titanium, it will take at least 3-4 quarters to improve and, as a result, milled product shipments could be down significantly in 2010. There are some positive signs on the pricing front as it appears to be stabilizing during the current quarter. While pricing may not rebound quickly, we do not expect any meaningful degradation in pricing from current quarter levels. After being delayed by two years, two **Boeing** 787 **(BA - NEUTRAL - $62.20)** planes successfully completed their first flights in December 2009. We realize that, due to the existing inventory of materials for this program in the food chain, business may not pick up until the end of 2010, but we believe these successful flights provide more confidence in a strong CY11 for TIE. While CY10 is expected to be tough year, investors may look beyond it to some very strong long-term growth over the next several years. Over the past ten years, TIE has traded between a 10x and 30x forward price/earnings multiple. Our 12-month price target of $17 is based on a 22x multiple of our CY11 earnings estimate of $0.75. We rate the shares **BUY**. There is risk to our estimates and price target if delivery schedules for some of the key aerospace programs are pushed out.

Zoltek Companies Inc. (ZOLT)

Headquarters: St. Louis, MO
Website: www.zoltek.com

Rating	**NEUTRAL**
Current Price	$9.59
Price Target	$10
52 Wk Price Range	$12.63 -$4.29
Avg Daily Vol	242,930
Market Capitalization	$328 M
Shares Outstanding	34.3M
Cash	$20.94M
Cash/Share	$0.50
Debt/Capital	0%
Book Value	$315.5 M
Book Value/Share	$9.21
Dividend Yield	NA
FY End	SEP

Earnings Per Share

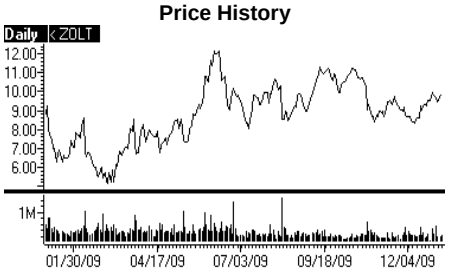
	2009A	20010E	2011E
Q1	$0.07	-$0.02 E	$0.07
Q2	$0.06	-$0.01 E	$0.09
Q3	-$0.01	$0.02 E	$0.10
Q4	-$0.09	$0.04 E	$0.12
Year	$0.03	$0.03 E	$0.38
P/E	n.m.	n.m.	25.5x

Note: Numbers may not add because of rounding.

Revenue ($mil)

	2008A	2009E	2010E
Q1	$38.6	$32.0 E	$40.0
Q2	$36.0	$34.0 E	$42.0
Q3	$30.3	$36.0 E	$43.0
Q4	$33.8	$38.0 E	$45.0
Year	$138.8	$140.0 E	$170.0
P/S	2.38x	2.38x	2.01x

Price History



Source: Thomson One

The Company

Zoltek Companies, Inc. is one of the world's leading manufacturers of carbon and technical fibers. Carbon fiber reinforced composites show remarkable properties, such as high strength, low weight and strong corrosion resistance. As a result, these fibers are seeing their growing adoption in performance critical industries, such as wind power, automotive, industrials and oil & natural gas.

Investment Thesis

Wind currently generates 2% of the worldwide electricity capacity, which is expected to grow to more than 10% of total capacity by 2030. Growth in this segment is expected to be quite strong once past the current weak economic environment. As the size of wind turbines continues to grow, lightweight carbon fibers have seen increasing adoption. With more than 60% exposure to wind and almost a 90% share of the carbon fiber market for wind, Zoltek is well positioned to gain from this growth. Other industries such as automotive, oil & gas, and industrials have also been adopting carbon fibers to enable better performance.

Recent Developments

Zoltek reported 4Q:FY09 operating EPS of $(0.09) on revenues of $33.8 million (up 12% from June 2009 but down 34% from September 2008). Revenues were better than expected while EPS was significantly lower, primarily due to the available unused capacity costs from the company's carbon fiber lines in Hungary and Mexico. FY09 gross margins fell to 22.1% versus 27.6% in FY08. In late FY08, Zoltek almost doubled its capacity, adding new carbon fiber production lines in Hungary and Mexico. Unfortunately, the economic recession began soon after and the unused capacity had an adverse impact on gross margins. After growing at a 20%-25% annual rate over the past several years, management expects close to 10% annual growth in the wind business in CY10. Zoltek also expects to add two new customers for wind by early next year. Other than wind, a recent announcement of a joint venture between BMW and SGL Group of Germany for high-performance cars is a near-term negative, given Zoltek's strong involvement in that project. Additionally, one of the company's key wind customers Vestas (54% and 40% of revenues in FY09 and FY08) announced recently that it plans to halt production at its Windsor, CO blade manufacturing plant in the early part of 2010. Clearly, we expect business to remain challenging in the near-term but expect some growth coming back in the second half. Our $10 price target is predicated on a 22x multiple to our CY11 earnings estimate of $0.45. Given the limited upside from current levels, we rate the shares **NEUTRAL**. There is risk to our estimates and price target in the adoption of wind energy does not take place according to our assumptions.

Non-Covered Public Advanced Materials Companies To Watch

COMPANY	DESCRIPTION
A123Systems (AONE: $22.16) *Watertown, MA*	A123Systems develops next generation Lithium-Ion batteries that revolutionize the way manufacturers design high-power products.
Accelrys (ACCL: $5.67) *San Diego, CA*	Accelrys engages in the design, development, marketing, and support of software and related services that facilitate the discovery and development of new and improved products and processes in the pharmaceutical, biotechnology, chemical, petrochemical, and material industries.
Advanced Battery Technologies Inc. (ABAT: $4.45) *New York, NY*	Advanced Battery Technologies, Inc. engages in the design, manufacture, and marketing of rechargeable polymer lithium-ion (PLI) batteries in the People's Republic of China, the United States, and Europe. Its products include rechargeable PLI batteries for use in consumer products, such as portable computers, personal digital assistants, and cellular telephones. The company also, through a 49% equity interest in Beyond E-Tech, Inc., distributes cellular telephones in the United States.
Allegheny Technologies (ATI: $49.66) *Pittsburgh, PA*	Allegheny Technologies Incorporated, through its subsidiaries, engages in the production and sale of specialty metals worldwide. It operates in three segments: High Performance Metals, Flat-Rolled Products, and Engineered Products.
Altair Nanotechnologies, Inc. (ALTI: $0.90) *Reno, NV*	Altair Nanotechnologies, Inc. engages in developing and commercializing nanomaterial and titanium dioxide pigment technologies in the United States and Canada. The company operates in three divisions: Power and Energy Group, Performance Materials, and Life Sciences.
American Superconductor (AMSC: $43.17) *Devens, MA*	American Superconductor Corporation engages in the development, manufacture, and sale of products using two core technologies: high temperature superconductor (HTS) wires and power electronic converters for electric power applications. The company also assembles superconductor wires and power electronic converters into integrated products, such as HTS ship propulsion motors and dynamic reactive compensation systems.
Anaren Inc. (ANEN: $14.93) *East Syracuse, NY*	Anaren, Inc. engages in the design, development, and manufacture of microwave and radio frequency components, assemblies, and subsystems that receive, process, and transmit radar, wireless communications, and other wireless signals and microwave transmissions. Its product line includes surface mount microwave components, which provide passive microwave signal distribution functions; ferrite components that are used in various wireless base station applications; and resistive products, including resistors, power terminations, and attenuators for use in high-power wireless, industrial, and medical applications.
AXT, Inc. (AXTI: $3.10) *Fremont, CA*	AXT, Inc. designs, develops, manufactures, and distributes compound and single element semiconductor substrates for wireless communications, lighting display applications, and fiber optic communications applications. The company offers semi-insulating substrates made from gallium arsenide, which are used in power amplifiers and radio frequency integrated circuits of wireless handsets; direct broadcast televisions; high-performance transistors; and satellite communications applications.
CARBO Ceramics Inc. (CRR: $69.98) *Irving, TX*	CARBO Ceramics Inc. engages in the manufacture and supply of ceramic proppant primarily used in the hydraulic fracturing of natural gas and oil wells in the United States and internationally. The company primarily manufactures five ceramic proppants, including CARBOHSP and CARBOPROP designed for use in deep gas wells; CARBOLITE and CARBOECONOPROP for use in natural gas wells of moderate depth and oil wells; and CARBOHYDROPROP used to enhance performance in slickwater fracture treatments.
Carpenter Technology Corp. (CRS: $30.83) *Reading, PA*	Carpenter Technology Corp. engages in the manufacture, fabrication, and distribution of specialty metals and engineered products. The company offers specialty metals, including stainless steels, titanium products, high temperature alloys, electronic alloys, tool steels, and other alloys in various forms. Carpenter also provides engineered products, such as structural ceramic, ceramic cores, and custom-shaped bars.

Cree, Inc. (CREE: $58.47) *Durham, NC*	Cree, Inc. develops and manufactures semiconductor materials and devices primarily based on silicon carbide (SiC), gallium nitride (GaN), and related compounds. It offers light emitting diode (LED), SiC and GaN material, and power and radio frequency (RF) products. The company's LED products include LED chips, LED components, and LED lighting solutions. Cree provides SiC and GaN wafer and epitaxy material products to corporate, government, and university customers to manufacture products for optoelectronic, microwave, and power switching applications; and SiC crystal materials for gemstone applications.
Dionex (DNEX: $75.93) *Sunnyvale, CA*	Dionex Corporation designs, manufactures, markets, and services analytical instrumentation and related accessories, and chemicals. It offers a range of liquid chromatography systems, sample preparation devices, and related products that are used by chemists to separate and quantify the individual components of chemical mixtures in industrial, research, and laboratory markets.
Ener1, Inc. (HEV: $6.39) *New York, NY*	Ener1, Inc. engages in developing and manufacturing rechargeable lithium-ion batteries and battery systems in the United States and South Korea. It operates in three segments: Battery, Fuel Cell, and Nanotechnology. The Battery segment offers lithium-ion batteries for hybrid, plug-in hybrid, and electric vehicles, as well as for buses, trucks, and other alternative transportation vehicles. The Fuel Cell segment develops and markets fuel cells and fuel cell systems. The Nanotechnology segment engages in developing nanotechnology related manufacturing processes and materials. The company offers its products to customers in the transportation, stationary power, military applications, and small cell markets.
First Solar (FSLR: $140.48) *Tempe, AZ*	First Solar, Inc. and its subsidiaries engage in the design, manufacture, and sale of solar electric power modules. The solar module is a polycrystalline thin film structure that employs cadmium telluride semiconductor material to convert sunlight into electricity. The company sells its products to solar project developers and system integrators.
Flexible Solutions International (FSI: $1.77) *Victoria, BC Canada*	Flexible Solutions International engages in the development, manufacture, and marketing of patented water technologies worldwide. The company's proprietary environmental technologies simultaneously reduce water evaporation and energy consumption. This technology can be applied to swimming pools, open fresh water surfaces of all kinds, and agricultural land.
Force Protection Inc. (FRPT: $5.10) *Ladson, SC*	Force Protection, Inc. engages in the design, manufacture, testing, and delivery of blast and ballistic protected vehicles that support armed forces and security personnel. It offers Armor Kit/ForceArmor, an external ballistic protection module that protects from explosively formed projectiles. Force Protection, Inc. offers its products under the Buffalo, Cougar, and Cheetah platforms. It principally serves the U.S. Army, the U.S. Marine Corps, and the U.S. Department of Defense.
GrafTech International (GTI: $16.03) *Parma, OH*	GrafTech International, Ltd. develops and manufactures graphite and carbon material science-based solutions. It operates through three segments: Graphite Electrode, Advanced Graphite Materials, and Other Business.
Haynes International (HAYN: $34.00) *Kokomo, IN*	Haynes International, Inc. develops, manufactures, markets, and distributes alloys, which are used primarily in the aerospace, land-based gas turbine, and chemical processing industries. It provides high temperature-resistant alloys (HTA products) and corrosion-resistant alloys (CRA products).
Horsehead Holding Corp. (ZINC: $13.07) *Pittsburgh, PA*	Horsehead Holding Corp. produces zinc and zinc-based products in North America. Its products include PW zinc metal, which is used to provide a protective coating to various fabricated products, including pipe and guard rails, heat exchangers, and telecommunications towers, as well as for the production of brass; and SSHG zinc metal that is used as feed for the manufacture of high-purity zinc powder and zinc alloys. Horsehead Holding's customers primarily include steel and brass producers, and galvanizers.
LDK Solar Co., Ltd. (LDK: $7.93) *Xinyu City, China*	LDK Solar Co., Ltd. engages in the manufacture and sale of multicrystalline solar wafers to the manufacturers of solar cells and solar modules in the People's Republic of China and internationally. The company offers multicrystalline solar wafers between 180 and 220 microns in thickness. It also provides wafer processing services to monocrystalline and multicrystalline solar cell and module manufacturers. In addition, the company manufactures polysilicon materials, which include ingots and polysilicon scraps.

MEMC Electronic Materials Inc. (WFR: $14.55) *St. Peters, MO*	MEMC Electronic Materials, Inc. designs, manufactures, and sells silicon wafers for the semiconductor industry worldwide. The company's products are used in the manufacture of various semiconductor devices, including microprocessor, memory, logic, and power devices, as well as the starting material for solar cells. Its customers comprise semiconductor device manufacturers, including the memory, microprocessor, and applications-specific integrated circuit manufacturers, foundries, and solar cell and module manufacturers.
MTS Systems Corp. (MTSC: $28.94) *Eden Prairie, MN*	MTS Systems Corporation supplies mechanical testing systems and industrial position sensors in North America, Europe, and Asia.
ReneSola Ltd. (SOL: $5.66) *Jiashan, China*	ReneSola, Ltd. engages in the development, manufacture, and sale of solar wafers and related products in the People's Republic of China. It offers silicon ingots and solar wafers, which are processed from silicon raw materials, including reclaimable silicon raw materials, in the form of partially-processed and broken wafers, broken solar cells, pot scrap, silicon powder, ingot tops and tails, and other off-cuts. The company sells solar wafers which are used in the production of solar cells.
Symyx Technologies, Inc. (SMMX: $5.41) *Sunnyvale, CA*	Symyx Technologies, Inc. operates as a scientific research and development integration partner for various companies in the life sciences, chemical, energy, consumer products, and electronics industries in the United States, Europe, Asia, and rest of North America.
USEC Inc. (USU: $4.38) *Bethesda, MD*	USEC Inc. supplies low enriched uranium (LEU) for commercial nuclear power plants worldwide. It sells separative work units (SWU) component of LEU, the SWU and uranium components of LEU, and uranium. In addition, USEC Inc. provides nuclear energy solutions and services, including the design, fabrication, and implementation of spent nuclear fuel technologies; nuclear materials transportation; and nuclear fuel cycle consulting services.

Source: CapitalIQ

Comprehensive Universe of Covered and Non-Covered Advanced Materials Companies

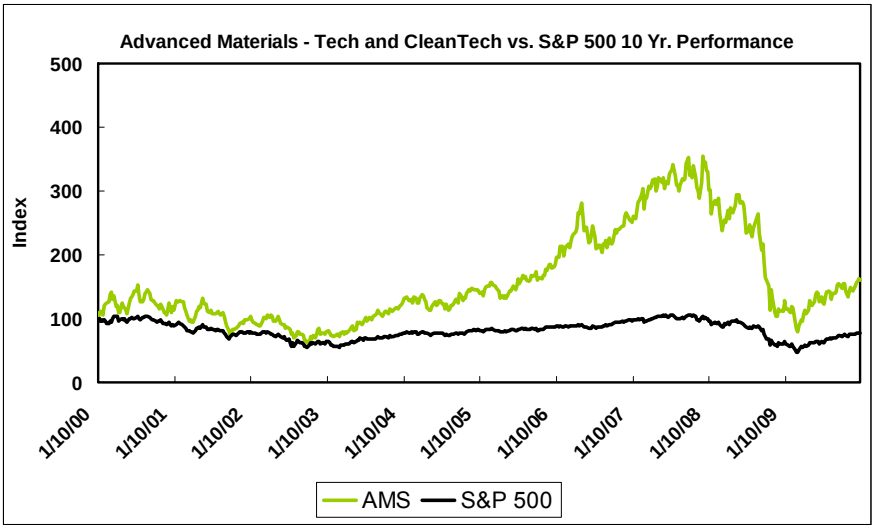
Advanced Materials Comparable Valuation Table ($ in millions, except per share)

Company		Rating	Price 1/7/2010	Shares Out.	Market Cap	BV Per Share	P/Book Value	Sales CY:08	Sales CY:09E	P/Sales CY:08	P/Sales CY:09E	EPS CY:08	EPS CY:09E	P/E CY:08	P/E CY:09E
Semiconductor & Component Materials															
Anaren Inc.	ANEN	NR	$14.93	14.9	$223	$11.17	1.3x	$149	$170	1.5x	1.3x	$0.61	$0.88	24.3x	17.0x
ATMI Inc.*	ATMI	BUY	$18.85	31.8	$600	$12.69	1.5x	$339	$243	1.8x	2.5x	$0.77	-$0.13	24.6x	n.m.
AXT Inc.*	AXTI	NR	$3.10	30.7	$95	$2.86	1.1x	$73	n.m.	1.3x	n.m.	$0.04	-$0.03	77.5x	n.m.
Brush Engineered Materials Inc.	BW	BUY	$21.23	20.4	$434	$16.85	1.3x	$910	$700	0.5x	0.6x	$1.43	-$0.37	14.9x	n.m.
Cabot Microelectronics Corp.*	CCMP	BUY	$33.17	23.2	$771	$20.25	1.6x	$345	$320	2.2x	2.4x	$1.13	$1.00	29.3x	n.m.
Entegris, Inc.*	ENTG	BUY	$5.23	115.0	$602	$2.94	1.8x	$555	$372	1.1x	1.6x	-$0.02	-$0.38	n.m.	n.m.
MEMC Electronic Materials Inc.	WFR	NR	$14.55	223.6	$3,253	$9.80	1.5x	$1,988	$1,143	1.6x	2.8x	$3.24	-$0.08	4.5x	n.m.
Rogers Corporation	ROG	BUY	$29.34	15.7	$462	$2.65	11.1x	$380	$292	1.2x	1.6x	$1.90	$0.54	15.4x	n.m.
Rubicon Technology, Inc.*	RBCN	NEUTRAL	$19.29	20.0	$386	$4.87	4.0x	$37	$19	11.6x	20.1x	$0.21	-$0.45	n.m.	n.m.
Average					**$758**	**$9.34**	**2.8x**	**$530**	**$407**	**2.5x**	**4.1x**	**$1.03**	**$0.11**	**27.2x**	**17.0x**
Advanced Ceramics															
Anaren Inc.	ANEN	NR	$14.93	14.9	$223	$11.17	1.3x	$149	$170	1.5x	1.3x	$0.61	$0.88	24.3x	17.0x
CARBO Ceramics Inc.	CRR	NR	$69.98	23.1	$1,614	$19.34	3.6x	$404	$340	4.0x	4.7x	$2.36	$2.33	29.7x	30.0x
Ceradyne Inc.*	CRDN	NEUTRAL	$19.25	25.9	$499	$24.87	0.8x	$680	$408	0.8x	1.2x	$4.38	$0.58	4.4x	33.2x
Force Protection Inc.	FRPT	NR	$5.10	70.0	$357	$4.17	1.2x	$852	$960	0.4x	0.4x	$0.63	$0.00	8.2x	n.m.
Hexcel Corp.	HXL	BUY	$13.72	98.1	$1,346	$5.99	2.3x	$1,325	$1,082	1.0x	1.2x	$0.82	$0.59	16.8x	23.4x
Average					**$808**	**$13.11**	**1.8x**	**$682**	**$592**	**1.5x**	**1.8x**	**$1.76**	**$0.87**	**16.7x**	**25.9x**
Materials Research and Characterization															
Accelrys Inc.	ACCL	NR	$5.67	27.6	$156	$3.06	1.9x	$81	$82	1.9x	1.9x	-$0.04	-$0.05	n.m	n.m
Dionex Corp.	DNEX	NR	$75.93	17.7	$1,346	$13.05	5.8x	$380	$388	3.5x	3.5x	$2.95	$2.92	25.8x	26.0x
MTS Systems Corp.	MTSC	NR	$28.94	16.6	$479	$12.31	2.4x	$446	$384	1.1x	1.2x	$2.36	$1.26	12.3x	23.0x
Symyx Technologies Inc.	SMMX	NR	$5.41	34.5	$186	$4.45	1.2x	$159	$146	1.2x	1.3x	-$0.35	$0.14	n.m.	38.6x
Average					**$542**	**$8.22**	**2.8x**	**$267**	**$250**	**1.9x**	**2.0x**	**$1.23**	**$1.07**	**19.0x**	**29.2x**
Solar, Wind & Power															
American Superconductor Corporation	AMSC	NR	$43.17	44.2	$1,910	$5.82	7.4x	$156	$261	12.2x	7.3x	-$0.47	$0.26	n.m.	n.m.
First Solar, Inc.*	FSLR	NR	$140.48	85.1	$11,956	$28.91	4.9x	$1,221	$1,999	9.8x	6.0x	$3.92	$7.31	35.8x	n.m.
LDK Solar Co.Ltd.	LDK	NR	$7.93	129.8	$1,029	$5.26	1.5x	$1,639	$1,086	0.6x	0.9x	$1.23	-$1.76	6.4x	n.m.
MEMC Electronic Materials Inc.	WFR	NR	$14.55	223.6	$3,253	$9.80	1.5x	$1,988	$1,143	1.6x	2.8x	$3.24	-$0.08	4.5x	n.m.
ReneSola Ltd.	SOL	NR	$5.66	137.6	$779	$2.06	2.7x	$665	$504	1.2x	1.5x	-$0.73	-$0.59	n.m.	n.m.
USEC Inc.	USU	NR	$4.38	112.6	$493	$10.46	0.4x	$1,623	$2,035	0.3x	0.2x	$0.41	$0.29	10.7x	15.1x
Average					**$3,237**	**$10.38**	**3.1x**	**$1,215**	**$1,171**	**4.3x**	**3.1x**	**$1.27**	**$0.90**	**14.4x**	**15.1x**
Advanced Metals															
Allegheny Technologies Inc.	ATI	NR	$49.66	98.1	$4,870	$21.19	2.3x	$5,310	$2,985	0.9x	1.6x	$5.28	$0.24	9.4x	n.m.
Brush Engineered Materials Inc.	BW	BUY	$21.23	20.4	$434	$16.85	1.3x	$910	$700	0.5x	0.6x	$1.43	-$0.37	14.9x	n.m.
Carpenter Technology Corp.	CRS	NR	$30.83	44.0	$1,358	$14.11	2.2x	$1,847	$1,152	0.7x	1.2x	$3.46	-$0.31	8.9x	n.m.
Dynamics Materials Corp*	BOOM	BUY	$21.65	12.6	$274	$10.45	2.1x	$233	$163	1.2x	1.7x	$1.79	$0.70	12.1x	30.8x
Haynes International Inc.	HAYN	NR	$34.00	12.1	$411	$23.04	1.5x	$608	$397	0.7x	1.0x	$4.56	-$0.29	7.5x	n.m.
Horsehead Holding Corp.	ZINC	NR	$13.07	43.3	$566	$7.85	1.7x	$444	$218	1.3x	2.6x	$0.28	-$0.63	47.5x	n.m.
Titanium Metals Corp.	RTI	BUY	$12.85	180.6	$2,321	$6.36	2.0x	$1,152	$763	2.0x	3.1x	$0.82	$0.17	15.7x	77.5x
RTI International Metals, Inc.	TIE	BUY	$29.16	24.6	$719	$29.85	1.0x	$610	$406	1.1x	1.8x	$2.44	-$0.16	12.0x	n.m.
Average					**$1,369**	**$16.21**	**1.7x**	**$1,389**	**$848**	**1.0x**	**1.7x**	**$2.51**	**-$0.08**	**16.0x**	**54.1x**
Lasers & LEDs															
Cree Inc.	CREE	NR	$58.47	103.6	$6,059	$16.58	3.5x	$534	$629	11.3x	9.6x	$0.56	$0.79	n.m.	n.m.
II-VI Inc*	IIVI	BUY	$31.48	29.9	$941	$11.15	2.8x	$335	$265	2.8x	3.6x	$1.67	$0.86	18.8x	36.6x
IPG Photonics Corporation*	IPGP	BUY	$17.20	46.7	$803	$5.42	3.2x	$229	$180	3.5x	4.5x	$0.77	$0.19	22.4x	n.m.
Rubicon Technology, Inc.*	RBCN	NEUTRAL	$19.29	20.0	$386	$4.87	4.0x	$37	$19	10.6x	20.0x	$0.21	-$0.45	92.7x	n.m.
Average					**$2,047**	**$9.51**	**3.4x**	**$284**	**$273**	**7.1x**	**9.4x**	**$0.80**	**$0.35**	**44.7x**	**36.6x**
Water Filtration & Separation															
Dionex Corp.	DNEX	NR	$75.93	17.7	$1,346	$13.05	5.8x	$380	$388	3.5x	3.5x	$2.95	$2.92	25.8x	26.0x
Flexible Solutions International Inc.	FSI	NR	$1.77	14.0	$25	$0.80	2.2x	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
Polypore International	PPO	BUY	$12.02	44.7	$538	$9.17	1.3x	$611	$495	0.8x	1.1x	$0.96	$0.49	1.0x	0.5x
Average					**$636**	**$7.67**	**3.1x**	**$495**	**$441**	**2.2x**	**2.3x**	**$1.95**	**$1.70**	**13.4x**	**13.3x**
Battery															
A123 Systems, Inc.	AONE	NR	$22.16	102.5	$2,271	$5.35	4.1x	n.m.	n.m.	n.m.	n.m.	n.m.	-$2.43	n.m.	n.m.
Advanced Battery Technologies, Inc.	ABAT	NR	$4.45	66.9	$298	$1.93	2.3x	$46	$63	6.4x	4.7x	$0.34	$0.38	13.1x	11.7x
Altair Nanotechnologies, Inc.	ALTI	NR	$0.90	105.5	$95	$0.39	2.3x	$9	$5	n.m.	n.m.	$0.00	-$0.22	n.m.	n.m.
Ener1, Inc.	HEV	NR	$6.39	121.1	$774	$0.90	7.1x	$2	$36	n.m.	21.8x	-$0.39	-$0.42	n.m.	n.m.
Polypore International Inc.	PPO	BUY	$12.02	44.7	$538	$9.17	1.3x	$611	$495	1x	1.1x	$0.96	$0.49	12.6x	24.7x
Average					**$795**	**$3.55**	**3.4x**	**$167**	**$150**	**3.6x**	**9.2x**	**$0.23**	**-$0.44**	**12.8x**	**18.2x**
Composites, Carbon & Graphite															
GrafTech International Ltd.	GTI	NR	$16.03	120.4	$1,930	$4.59	3.5x	$1,194	$652	1.6x	0.0x	$1.95	$0.52	8.2x	30.8x
Hexcel Corp.	HXL	BUY	$13.72	98.1	$1,346	$5.99	2.3x	$1,325	$1,082	1.0x	1.2x	$0.82	$0.59	16.8x	23.4x
Zoltek Companies, Inc.*	ZOLT	NEUTRAL	$9.59	34.3	$328	$9.21	1.0x	$139	$140	2.4x	2.3x	$0.03	$0.03	n.m.	n.m.
Average					**$1,202**	**$6.59**	**2.3x**	**$886**	**$625**	**1.7x**	**1.2x**	**$0.93**	**$0.38**	**12.5x**	**27.1x**
Comprehensive Coverage Universe Average					**$1,386**	**$10.05**	**2.7x**	**$761**	**$595**	**2.7x**	**3.5x**	**$1.40**	**$0.35**	**18.4x**	**29.9x**

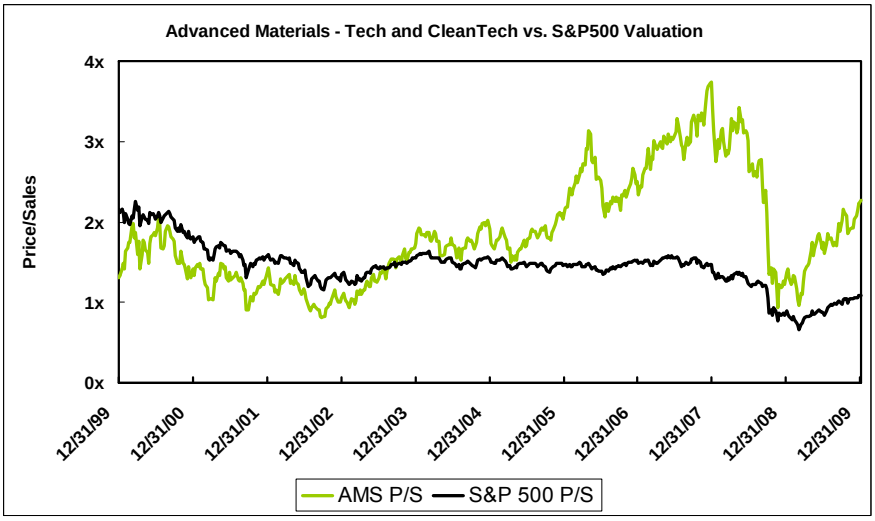
*D.A. Davidson & Co. makes a market in this security

Source: CapitalIQ and D.A. Davidson & Co. estimates

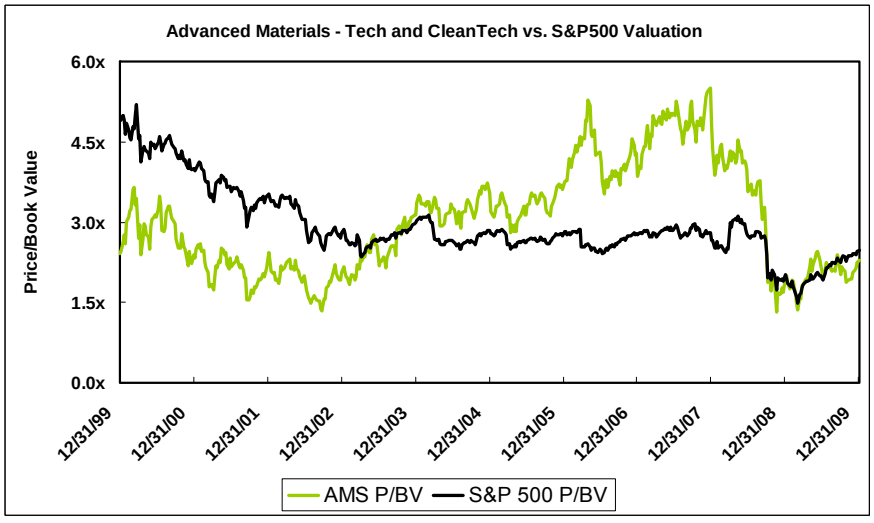
Performance & Valuation of the Comprehensive Universe



Source: CapitalIQ



Source: StockVal



Source: StockVal

Note: The AMS universe used in these charts consists of all the companies mentioned in the table on page 40.

Private Advanced Materials Companies To Watch

COMPANY	DESCRIPTION
Advanced Diamond Technologies www.thindiamond.com *Romeoville, IL*	Advanced Diamond Technologies, Inc. (ADT) develops and applies diamond films for industrial, electronic and mechanical applications. ADT formed to commercialize the ultrananocrystalline diamond technology developed at Argonne National Laboratory, and is the exclusive licensee to Argonne's portfolio of patents for synthesizing and using UNCD.
AmberWave Systems www.amberwave.com *Salem, NH*	AmberWave Systems Corporation provides technology research and development services to the semiconductor industry. The company offers strained silicon solutions and device integration methodologies to enhance semiconductor-based products.
Aspen Aerogels www.aerogel.com *Northborough, MA*	Aspen Aerogels' patented nanotechnology process delivers a revolutionary change in thermal management and energy conservation. The company's technology is at work in oil pipelines, military ships, building and construction, boots and jackets, and several other applications/industries, wherever superior thermal, fire and acoustic barriers are needed but weight and space requirements are stringent.
Bridgelux www.bridgelux.com *Sunnyvale, CA*	Bridgelux is a U.S. lighting company and leading provider of high-power, cost-effective and energy-efficient light-emitting diode (LED) solutions. Focused on bringing innovation to light, Bridgelux's proprietary epitaxial technology, advanced chip designs and leading-edge LED packaging technology have enabled the company to develop advanced solid-state lighting (SSL) products that offer superior quality, are lower in cost and environmentally friendly—all without compromising performance. In addition to LED chips, the company delivers a range of SSL light sources that customers can easily integrate into a variety of lighting applications that will open up new markets in solid-state lighting.
Cambrios Technologies www.cambrios.com *Mountain View, CA*	Cambrios is an electronic materials company that develops proprietary, competitive products. Cambrios implements its novel technology to simplify electronics manufacturing processes, improve end-product performance, and identify ways to satisfy unmet industry needs. The company is also developing solution phase chemistries that will replace more complicated and expensive manufacturing processes.
Cnano Technology www.cnanotechnology.com *Menlo Park, CA*	Cnano Technology develops and manufactures carbon nanotubes for industry applications based on their unique electrical, thermal, and mechanical properties. The company's low manufacturing costs, based on the patented technologies and scalable manufacturing process, allow it to offer high quality carbon nanotubes at reasonable prices to customers.
Deep Photonics www.deepphotonics.com *Corvallis, OR*	Deep Photonics Corporation (DPC) develops industry leading, deep ultraviolet, fiber laser systems. Capitalizing on patented fiber laser designs and a fundamental technology breakthrough in deep ultra-violet optical materials, DPC is able to deliver industry-leading fiber laser systems at DUV wavelengths, with high reliability, small size, and high value.
Elmet Technologies www.elmettechnologies.com *Lewiston, ME*	Elmet manufactures molybdenum and tungsten products used in the lighting, electronics, semiconductor, automotive, fiberglass, aircraft, and medical industries. The company's product line includes wires, rods, sheets, and pressed and sintered parts. In addition, the company also manufactures custom precision machined and fabricated parts to exacting customer specifications.
Entek International www.entek-international.com *Lebanon OR*	With over one billion square meters of battery separator material shipped, Entek is one of the leading manufacturers of battery separators. Its market share is estimated to be 40%+ of the global Starting, Lighting and Ignition, PE Separators market.
EoPlex Technologies www.eoplex.com *Redwood City, CA*	EoPlex Technologies produces components in layers using custom printing equipment and proprietary "inks" that carry ceramic, metallic, or polymer materials to millions of locations. This allows the manufacture of components with integrated chambers, channels, sensors, circuits, reactors, energy scavengers, and other features.
Fiberforge www.fiberforge.com *Glenwood Springs, CO*	Fiberforge is a leader in thermoplastic advanced composite processing technology. Its products enable the affordable production of lightweight advanced-composite structures in high volumes. Its products produce parts with high fiber alignment, high fiber fraction, and long fiber length at high speed with low scrap. Fiberforge offers technology licensing, application development, and ramp-up production.

Five Star Technologies www.fivestartech.com *Cleveland, OH*	Five Star has built a broad portfolio of patented processes and advanced materials experience. In 2002, the company obtained venture capital funding to support the development of new materials-based product platforms. Focusing on the electronics products arena, Five Star has various products and initiatives, ranging from advanced powder processing to chip packaging materials.
Hycrete www.hycrete.com *Jersey City, NJ*	Hycrete provides corrosion control services for concrete structures. Its products include Hycrete Admixture, Hycrete TT, and Hycrete CMU. The company's products help in the protection of bridge decks and highways, seawalls and docks, wastewater treatment facilities, garages, swimming pools, tunnels, pavements, and walkways.
Hydration Technologies www.htiwater.com *Albany, OR*	Hydration Technology Innovations is the leading provider of next-generation forward osmosis water filtration technology based on a proprietary membrane that converts almost any polluted water into safe, potable drink.
Imara Corp. www.imaracorp.com *Menlo Park, CA*	Imara is a lithium-ion battery company that develops and manufactures the next generation of advanced batteries. Its cells stand apart from other lithium-ion batteries because of its unique, materials-agnostic electrode technology. It exclusively licenses a patented technology developed by the Stanford Research Institute (SRI), and has extended the technology through its own proprietary innovations. Imara's research and development team continues to expand the commercial boundaries of high-power, high-energy, lithium-ion chemistries.
Intermolecular www.intermolecular.com *San Jose, CA*	Intermolecular delivers High Productivity Combinatorial™ (HPC) technology products and services that enable customers to maximize semiconductor R&D ROI. The company's Tempus™ HPC Platform offers chipmakers, materials suppliers, and equipment manufacturers integrated processing, characterization and informatics systems that exponentially accelerate learning in materials discovery, process development and IC device integration.
Isola Group www.isola-group.com *Chandler, AZ*	Isola Group is a technology-driven, global designer, developer and manufacturer of high performance base materials used in the manufacture of advanced multilayer printed circuit boards worldwide.
Konarka Technologies www.konarka.com *Lowell, MA*	Konarka builds products that convert light to energy—anywhere. As the leading developer of polymer photovoltaic technology that provides a source of renewable power in a variety of form factors for commercial, industrial, government and consumer applications, Konarka has a broad portfolio of patents, technology licenses, and an accomplished technical team.
Kovio www.kovio.com *Sunnyvale, CA*	Kovio develops a new category of semiconductor products using printed silicon electronics and thin-film technology. This new manufacturing technology combines the low cost of graphics printing with the power and functionality of silicon-based semiconductors.
Micro Power www.micro-power.com *Beaverton, OR*	Micro Power develops battery systems, from those using Ni-MH and Ni-Cd batteries to the most advanced Lithium-ion systems and smart battery packs.
Molecular Imprints www.molecularimprints.com *Austin, TX*	Molecular Imprints has developed enabling imprint lithography systems for applications in nano devices, microstructures, advanced packaging, bio devices, optical components and semiconductor devices. The company's lithography tools enable niche, very high resolution applications at a significantly lower cost.
Nanofilm www.nanofilmtechnology.com *Valley View, OH*	Nanofilm's initial expertise enabled the manipulation of coatings at the molecular level to enhance the durability, clarity, and performance of polymeric eyeglass lenses. Today, Nanofilm's surface care products are distributed around the world for the care of electronic displays, such as computers, cell phones, and MP3 players, as well as cameras, scopes, eyeglasses, and sunglasses.
NanoGram www.nanogram.com *Milpitas, CA*	NanoGram develops and licenses technology that enables the manufacture of nanoscale compositions for applications in optical nanocomposites, battery materials, phosphors, solar, and core shell. The company's licensing package includes materials production process, surface modification, dispersion technologies, process transfer expertise, and ongoing support.
Nanosolar www.nanosolar.com *San Jose, CA*	Nanosolar is a global leader in solar power innovation. With its proprietary nanoparticle ink and roll-printing technology, Nanosolar owns the processes and designs to produce the world's most cost-efficient solar cells and make them available in many versatile product forms.

The NanoSteel Company www.nanosteelco.com *Providence, RI*	The NanoSteel Company, Inc. develops and markets a range of patented Super Hard Steel nano-structured materials that effectively solve or alleviate many problems that have a destructive or costly impact on industry today, including wear, corrosion, erosion and high temperature oxidation.
Nanosys www.nanosysinc.com *Palo Alto, CA*	Nanosys is developing products based on a highly patented (approximately 430 patents) technology platform incorporating high performance inorganic nanostructures that are being applied to address opportunities in multiple industries. Some current application areas include flexible electronics, lightweight and conformal solar cells, semiconductor memory, and novel nanostructured surface coatings.
Nantero www.nantero.com *Woburn, MA*	Nantero is using carbon nanotubes for the development of next-generation semiconductor devices (memory, logic, and others). In the field of memory, Nantero is developing NRAM, a high density nonvolatile Random Access Memory. The company's objective is to deliver a product that will replace all existing forms of memory, such as DRAM, SRAM and flash, with NRAM serving as universal memory.
Nextreme Thermal Solutions www.nextremethermal.com *Research Triangle Park, NC*	Develops next-generation thermoelectrics based on its unique, thin-film superlattice technology for applications that require extreme thermal management solutions.
nLIGHT Photonics Corp. www.nlight.net *Vancouver, WA*	nLIGHT is driving new application utilization of high-power semiconductor lasers and fibers through technology innovation and best practice manufacturing. Optimizing components and sub-systems for OEM integration generates differentiated advantages for its customers in industrial, medical, defense and consumer applications.
Pozzetta Products www.pozzetta.com *Englewood, CO*	Pozzetta, Inc. was founded in 1994 to meet the growing need to safely store and transport critical devices around the world. Pozzetta offers a comprehensive range of critical device handling solutions, and research and development capabilities to meet the increasingly sophisticated product-and-service requirements of the global semiconductor and electronics industry.
QuantumSphere www.qsinano.com *Santa Ana, CA*	QuantumSphere (QSI) is a leading manufacturer of advanced materials for a wide array of clean energy, defense, electronics, and other high value applications. Backed by a strong intellectual property portfolio, the company has demonstrated breakthrough results with high performance nano catalysts for use in emerging multibillion-dollar markets, such as batteries, ultracapacitors, fuel cells, and hydrogen generation.
Unidym www.unidym.com *Menlo Park, CA*	Unidym is a leader in the manufacture and application of carbon nanotubes (CNTs), a novel material with extraordinary electrical, thermal and mechanical properties. Unidym provides bulk materials, CNT-enabled products, and intellectual property to a wide range of customers and business partners. As a result of its recent merger with CNI, Unidym possesses a foundational patent portfolio that covers nearly every aspect of CNT manufacturing and processing, as well as multiple product applications.
Velocys www.velocys.com *Plain City, OH*	Velocys designs, develops, and tests microchannel-based chemical manufacturing systems. The Velocys technology process hardware enables substantial capital cost savings, improved product yields, and greater energy efficiencies. The company is addressing multiple end markets, including oil and gas, refining and fuels, commodity chemicals, specialty chemicals, and military.
Zyvex Performance Materials www.zyvex.com *Richardson, TX*	Zyvex Performance Materials was spun out of Zyvex Corporation in January 2007. Zyvex Performance Materials (ZPM) is the first company to provide carbon nanotube (CNT)-powered products to the marketplace. We have seen that nanomaterials, such as CNTs, hold great promise as components in advanced polymer composites that enable lower weight, higher mechanical strength, and improved electrical and thermal performance.

Recent Advanced Materials Universe News

December 28, 2009: II-VI Incorporated announced that it has entered into a definitive agreement to acquire Photop Technologies, Inc. for $45.6 million in cash and approximately 1,150,000 shares of II-VI common stock. In addition, the agreement provides for earn-out opportunities based upon Photop achieving certain future financial targets and is subject to customary closing adjustments. The transaction is scheduled to close during January 2010. Photop, headquartered in Fuzhou, China with over 3,000 employees, is a vertically-integrated manufacturer of engineered materials, optical components, microchip lasers for visible display applications, and optical modules for use in fiber optic communication networks and other diverse consumer and commercial applications.

December 21, 2009: Rubicon Technology released additional details related to its 2-year capacity expansion plan outlined on its third quarter earnings conference call last month. In a press release, Rubicon announced its plan to spend $60-$65 million on capacity expansion over the next two years, which will increase the company's annual revenue capacity to $130 million. The company also filed a $100 million mixed shelf in conjunction with its investment plan.

December 17, 2009: A new report on the life-cycle energy usage of energy-efficient lighting by Cree, Inc. shows that LED lighting products are now more efficient than traditional lighting products when compared across the high-volume applications of recessed downlighting and display spotlighting. Evaluating light fixtures and applications, the white paper's energy comparisons demonstrate that LEDs offer clear advantages in terms of energy costs and the environmental impact over traditional lighting such as incandescent, halogen and compact fluorescent bulbs.

December 15, 2009: After being delayed by two years the Boeing 787 Dreamliner successfully completed its first flight. The flight marks the beginning of a flight test program that will see six airplanes flying nearly around the clock and around the globe, with the airplane's first delivery scheduled for fourth quarter 2010. The technologically advanced Boeing 787 makes greater use of composite materials and titanium than any previous Boeing commercial airplane.

December 14, 2009: RTI International Metals, Inc. announced that it will idle the construction of its $300 million titanium sponge facility and take an asset impairment charge of $65-$75 million. The company also announced that it has entered into long-term titanium sponge supply agreements with Toho Titanium Co. and OSAKA Titanium Technologies of Japan. These contracts will secure sponge supply for RTI through 2021.

December 10, 2009: IPG Photonics Corporation announced four new fiber lasers designed to replace flash lamp-pumped long pulse YAG lasers. IPG's four new quasi continuous wave (QCW) fiber lasers feature peak pulse powers of 750 watts, 1,500 watts, 3,000 watts, and 5,000 watts and energies from 7.5 joules to 50 joules per pulse. These aircooled, compact units are substantially more cost-effective than conventional YAG lasers because of wall plug efficiencies greater than 30% and maintenance-free operation, in that there are no components that require replacement during ordinary operation over its useful life. IPG has begun shipments of the 750 watt and 1,500 watt peak power units with first shipments of the 3,000 watt and 5,000 watt units scheduled in Q1:CY10.

December 8, 2009: Micro Power Electronics announced that the U.S. Patent Office awarded it two new patents covering innovative design techniques and manufacturing practices for battery packs. These patents improve the safety and reliability of the portable battery packs produced by Micro Power for mission critical operations.

December 7, 2009: Danish wind-turbine maker Vestas Wind Systems A/S plans to halt production at its Windsor, CO blade manufacturing plant until at least the second quarter of 2010. Vestas had opened this plant in March 2008. The 500 workers at the plant will be placed on furlough and not laid off. Workers will be called back when orders pick up.

December 7, 2009: Ener1, Inc. announced that it has received $20 million in fresh investment capital from ITOCHU Corporation, a Japanese commercial trading giant with deep ties in the automotive, utility and renewable energy industries. ITOCHU purchased 3.2 million shares of common stock from Ener1 at a price of $6.18 per share.

November 23, 2009: MEMC Electronic Materials, Inc completed the acquisition of privately held Sun Edison LLC, a developer of solar power projects and North America's largest solar energy services provider. The purchase price was $200 million and was paid 70% in cash and 30% in MEMC stock, plus certain retention payments, transaction expenses, and the assumption of net debt.

November 20, 2009: Cabot Microelectronics Corporation announced that the United States District Court for the District of Arizona issued its ruling on summary judgment motions (Summary Judgment Order), pending Cabot Microelectronics' ongoing patent infringement litigation against DuPont Air Products NanoMaterials, LLC. In the Court's Summary Judgment Order, it denied a motion filed by DuPont Air Products NanoMaterials for a summary judgment of invalidity of three Cabot Microelectronics patents at issue in the case, which are fundamental patents in the field of tungsten CMP. The Court also denied DuPont Air Products NanoMaterials' motion for a summary judgment of non-infringement of these patents.

November 20, 2009: LDK Solar Co., Ltd. announced that it completed the sale of a 15% ownership stake in its 15,000 metric ton (MT) annualized capacity polysilicon plant to Jiangxi International Trust and Investment Co., Ltd. for RMB1.5 billion. The proceeds from the sale have been received by LDK Solar.

November 19, 2009: Entegris, Inc. announced it shipped multiple Aeronex® gas purification systems to Lextar Electronics Corporation. Entegris' Aeronex systems are used in light emitting diode (LED) manufacturing to help ensure the desired brightness of the final LED device. The Aeronex systems remove a variety of contaminants including moisture and oxygen down to the parts-per-billion level from the process gases used during the metal organic chemical vapor deposition (MOCVD) process. The removal of these contaminants enhances the photoluminescence of the LED device.

November 19, 2009: Intermolecular, Inc. announced that it has collaborated with AMD to develop advanced interconnect technology for next-generation, high-performance logic devices based on the process of molecular self-assembly. Working on a Collaborative Development Program (CDP) for the past year, Intermolecular and AMD have developed an innovative solution that enables the implementation of a copper-capping layer in manufacturing advanced logic devices with copper interconnects and low-k dielectrics. The CDP was custom-designed to apply Intermolecular's High-Productivity Combinatorial™ (HPC) technology products and services to AMD's specific device architecture.

November 17, 2009: Brush Engineered Materials Inc. announced that, through its wholly-owned subsidiary, Williams Advanced Materials Inc. (WAM), it has entered into a definitive agreement to acquire privately held Academy Corporation. The acquisition is expected to be consummated in January 2010, subject to the satisfaction or waiver of customary closing conditions. The transaction, valued at approximately $23 million, is expected to be financed through internally generated cash and proceeds from its $240 million revolving line of credit. The acquisition is expected to be accretive to earnings in 2010.

November 14, 2009: Unidym, Inc, announced that it has entered into a joint development agreement with a major liquid crystal display (LCD) manufacturer. Under the agreement, Unidym will work with the Process Development Group at the major LCD manufacturer to integrate CNT transparent conductive films into glass-based liquid crystal displays.

November 4, 2009: ExxonMobil Chemical's affiliate TonenGeneral and Toray Industries have agreed to establish a global joint venture for the battery separator film business. It will develop, manufacture and sell lithium ion battery (LIB) separator film and introduce next-generation films to the market. The joint venture will combine Toray's plastic film processing and polymer science capabilities with Tonen's existing lithium ion battery separator film business and technology. The new joint venture will address the personal electronics market, as well as support the development of future LIB applications in hybrid-electric and electric vehicles.

November 3, 2009: Cambrios Technologies Corporation announced that it has received investments totaling $14.5 million in a first closing of its Series D Financing Round. All of the company's existing institutional preferred shareholders participated in the round. In addition, three strategic partners made investments in the company.

October 23, 2009: Brush Engineered Materials Inc. announced that, through its wholly-owned subsidiary, Williams Advanced Materials Inc. (WAM), it has acquired privately held Barr Associates, Inc. The transaction, valued at approximately $55 million, was financed with internally generated cash and proceeds of approximately $25 million from its $240 million revolving line of credit. The acquisition is expected to be accretive to earnings in 2010.

October 21, 2009: Aspen Aerogels, Inc., has been awarded a $2.5 Million Phase III SBIR contract from the Air Force Research Laboratory, Space Vehicles Directorate entitled "Rapid Fabrication of Aerogel Thermal Insulation for Space Applications." The project scope is to develop custom-fit insulation blankets that will replace conventional multi-layer insulation (MLI) currently used on satellites. The effort is directed to Responsive Space (RS) applications. The RS mission targets satellite assembly and launch within six days of the need's request. Aerogel offers several advantages over MLI, including significantly reduced installation time, increased handling durability, lower installed cost, and highly predictable performance. Based on previous work, Aerogel blankets have been installed on two satellites, one which launched successfully in May 2009.

October 20, 2009: CNano Technology Limited (CNano) announced that it received a certificate of registration for the International Standard ISO 9001:2008 for R&D, production and services of carbon nanotubes through its subsidiary in China. The ISO 9001 quality standard is the most widely recognized and established quality management system framework in the world. With the commissioning of the world's largest carbon nanotube production capacity of 500 tons per year early this year, CNano is going to provide high quality, volume carbon nanotube products to its existing and future customers.

September 21, 2009: Imara Corporation, a California-based a manufacturer of lithium-ion batteries, announced that its cells are now available for commercial applications. Imara says its technology overcomes the traditional trade off between fast power discharge and high energy density for extended run time. The company is pursuing the market for power tools, outdoor power equipment, hybrid electric vehicles, specialty applications and power grid systems.

Required Disclosures

D.A. Davidson & Co. expects to receive, or intends to seek, compensation for investment banking services from the companies mentioned in this report in the next three months.

D.A. Davidson & Co. is a full service investment firm that provides both brokerage and investment banking services. Avinash Kant, Ph.D., the research analyst principally responsible for the preparation of this report, will receive compensation that is based upon (among other factors) D.A. Davidson & Co.'s investment banking revenue. However, D.A. Davidson & Co.'s analysts are not directly compensated for involvement in specific investment banking transactions.

I, Avinash Kant, Ph.D., attest that (i) all the views expressed in this research report accurately reflect my personal views about the common stock of the subject company, and (ii) no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

Ratings Information

D.A. Davidson & Co. Ratings	Buy	Neutral	Underperform
Risk adjusted return potential	Over 15% total return expected on a risk adjusted basis over next 12-18 months	>0-15% return potential on a risk adjusted basis over next 12-18 months	Likely to remain flat or lose value on a risk adjusted basis over next 12-18 months

Distribution of Ratings (as of 9/30/09)	Buy	Hold	Sell
Corresponding Institutional Research Ratings	Buy	Neutral	Underperform
and Distribution	48%	45%	7%
Corresponding Private Client Research Ratings	Outperform	Market Perform	Underperform
and Distribution	78%	22%	0%
Distribution of Combined Ratings	51%	43%	6%

Distribution of companies from whom D.A. Davidson & Co. has received compensation for investment banking services in last 12 mos.

Institutional Coverage	8%	3%	13%
Private Client Coverage	0%	0%	0%
Distribution of Combined Investment Banking	7%	3%	13%

Target prices are our Institutional Research Department's evaluation of price potential over the next 12-18 months and 5 years, based upon our assessment of future earnings and cash flow, comparable company valuations, growth prospects and other financial criteria. Certain risks may impede achievement of these price targets including, but not limited to, broader market and macroeconomic fluctuations and unforeseen changes in the subject company's fundamentals or business trends.

For a copy of the most recent reports containing all required disclosure information for covered companies referenced in this report, please contact your D.A. Davidson & Co. representative or call 1-800-755-7848.

Other Disclosures

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