

# The Micro Cap Notes

Accredited Members...Credible Micro Cap Research...Incredible Opportunities

SPECIAL EDITION NEWSLETTER FOR NON-MEMBERS

VOLUME 72I

## The Big Picture



As most are aware by now, we recently signed Ben Stein as our “national spokesman” largely to help build our membership. Ben is an interesting character. While many know him for some of his television and movie appearances, (“Bueller...Bueller”), others know him more for his other exploits. As our release points out, Ben has “numerous awards for his financial writing, as well as his coverage of finance for Barron’s, the Wall Street Journal and The New York Times Sunday Business Section for many years. He has also written for NewsMax and penned a lengthy diary spanning some 40 years for The American Spectator. Stein is also a regular guest and contributor on “CBS Sunday Morning,” CNN and Fox News. Further, he “studied economics at Columbia and Yale universities, and earned a law degree from Yale. He has worked as an economist for the U.S. Department of Commerce and as a consumer protection attorney for the Federal Trade Commission.”

It’s easy to figure out why we did this. Most people have never heard of Accredited Members, but almost everyone (or so it seems) has heard of Ben Stein. While figuring out that he would be a great fit for us was easy, getting him to jump on board was considerably more difficult.

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## Good Things to Know



EBITDA is an abbreviation for Earnings Before Interest, Taxes, Depreciation and Amortization. EBITDA is a financial gauge that some people use to isolate a company’s operating results. From a practical standpoint, EBITDA is like the New York Yankees, people either love it or they hate it. Actually, my view, about EBITDA (not the Yankees), is that it is largely just misunderstood or perhaps sometimes taken out of context.

To the detractors, the argument is something like this: Why would anyone place any value in a measurement that disregards interest payments and taxes, when both of them have to be paid? Ignoring realities like interest and inevitabilities like taxes is fiction. Actually, on the face they’re right. You do have to pay both, and to compare two companies based solely on their EBITDA may create some erroneous conclusions, especially if one of them has a lot of debt and consequently a lot of interest to pay, and the other doesn’t.

On the other hand, EBITDA fans argue that the true value of a company has more to do with the

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# First Look



**Symbol:**

IBIO

**Approximate**

**Book Value / Share:\***

\$ .02

**Approximate Current Ratio:\***

.57 : 1

**52 Week High:\***

\$6.06

**52 Week Low:\***

\$ 1.02

**Price at 07/20/2011:**

\$ 2.70

**Approximate Shares**

**Outstanding:\***

32.4 million

**Approximate Float:\***

20 million

**Approximate 90-Day**

**Avg. Daily Volume:\***

90,157

**Approximate Cash Position:\***

\$ 3.8 million

**Approximate Market Cap.:**

\$ 94 million

*Selected Financial Data sources:*

*\* Yahoo! Finance*

*(This company is NOT currently under coverage by AMI.)*

## Company Overview

*iBio, Inc. is a biotechnology company offering its proprietary, transformative iBioLaunch technology platform for the production of biologics including therapeutic proteins and vaccines. The iBioLaunch platform uses transient gene expression in green plants for superior efficiency in protein production. Advantages include significantly lower capital and process costs. Additionally, the technology is ideally suited for complex proteins and for applications where speed, scalability, and surge capacity are important. The iBioLaunch technology was developed for iBio by the not-for-profit Fraunhofer USA Center for Molecular Biotechnology (FCMB) during the past eight years to overcome the inadequacies of existing technologies. iBio owns the intellectual property and technology developed at FCMB, and continues to sponsor development and application of the technology for biological applications in human health. The success of this relationship has substantially reduced the risk of bringing important new medical products to market and has created a unique opportunity for investors.*

*We exclusively control intellectual property developed at FhCMB for human health applications of plant-based production and protein expression systems. We also exclusively control the veterinary field for plant-made influenza vaccines. Our success will depend in part on our ability to obtain and maintain patent protection for our technologies and to preserve our trade secrets. Our policy is to seek to protect our proprietary rights, by among other methods, filing patent applications in the U.S. and foreign jurisdictions to cover certain aspects of our technology.*

*We have achieved our initial goal of developing a platform technology for accelerated discovery and production of improved vaccines and therapeutics, and have applied our technology to create a pipeline of proprietary products,*

*including vaccine and therapeutic candidates for seasonal and pandemic influenza, and other pathogens of public health significance.*

*We currently hold four U.S. patents and one international patent. Additionally, we have twelve U.S. and seventy-one international patent applications pending. The latter includes numerous foreign countries including Australia, Brazil, Canada, China, Hong Kong, India, Japan, New Zealand, and several countries in Europe. We continue to prepare patent applications relating to our expanding technology in the U.S. and abroad.*

## **Product/Technology Platform**

*We have a pipeline of proprietary products in development, including novel sub-unit vaccine candidates directed against both pandemic and seasonal influenza, vaccine candidates for treatment of HPV (human papilloma virus) infections, and vaccine candidates for prevention of anthrax and plague infections. Our platform technology is also being used to develop and produce therapeutic antibodies for treatment of anthrax and influenza. We are evaluating opportunities for partnerships and alliances to ensure clinical development and market penetration of these products. We also offer the benefits of the innovative iBioLaunch™ technology platform to biotechnology and pharmaceutical companies for production of other vaccines, antibodies and therapeutic proteins. Our unique accelerated technology platform, iBioLaunch™, has the potential to revolutionize the manufacture of biopharmaceuticals.*

*The iBioLaunch™ platform was developed to rapidly produce high levels of target protein:*

- *A “launch vector” is constructed of a cDNA sequence that encodes the target protein cloned into a plant viral gene expression vector.*
- *The launch vectors are introduced into agrobacteria where they multiply to very large copy numbers.*
- *The agrobacteria, carrying their payload of launch vectors, are introduced into all aerial parts of green plants by vacuum infiltration. This process provides for near complete leaf coverage, increasing the efficiency and speed of protein production.*
- *Once the plants have been infiltrated with agrobacteria, the viral sequences of the launch vectors along with the cloned target sequences are massively amplified through virus replication. Translation of these recombinant viral vector mRNAs results in accumulation of hundred milligram quantities of target protein per kilogram of fresh plant tissue in less than a week.*
- *The plants accumulate these high levels of target protein in their leaf and stem tissue. This is termed transient expression because the target gene sequence is not incorporated into the plant chromosome and thus does not result in the creation of transgenic plants.*
- *The plant biomass is harvested, ground and clarified to produce an extract containing the protein of interest. Proteins are further purified as required using well-established separation and chromatography steps.*

*Our iBioLaunch technology is a platform that uses green plants for the accelerated development and manufacture of high value proteins of immediate interest as product candidates. In addition to therapeutics, we believe that our technology is applicable to vaccines for a broad range of disease agents, based on laboratory experiments conducted to date. We believe we can target rapidly evolving disease agents and develop product candidates that will demonstrate high safety, potency and efficacy. We believe that we will be able to license our iBioLaunch technology to corporations that will scale it up to commercial levels to provide a means of effectively manufacturing pharmaceutical proteins and vaccines.*

*The iBioLaunch technology is used in a series of steps. First, normal green plants are grown for a few weeks, and at the same time, genes of interest are inserted into proprietary target DNA plasmids. A plasmid is a DNA molecule, usually circular, that can replicate inside a cell, such as a bacterial cell. These plasmids include sequences derived from plant viruses to enable easier activation of genes of interest inside living green plant tissue and also sequences derived from the bacterium, *Agrobacterium tumefaciens*, to enable efficient transfer of the entire vehicle into green plant tissue and activation of the genes once inside. Secondly, once both the plants and the plasmids with the new gene or genes of interest are ready, we transfer the engineered plasmids into plants by first putting them into *Agrobacteria* and then infusing the living *Agrobacteria* into growing green plants where the protein encoded by the new gene can be produced. After the transfer of bacteria into plants, the plants are grown for approximately an additional week and then the plant tissue is harvested and the desired protein or vaccine molecules are extracted and purified.*

Because this entire process uses commonly available materials, we are not dependent on unique sources of raw material, nor are we limited to purchasing from single suppliers. The process is fast enough and inexpensive enough to enable more experiments to be conducted in a given period of time than can usually be conducted with slower or more expensive technology such as cultured animal cells and bioreactor methods. A more technically detailed description of this technology and its use was published in 2007 in the scientific journal *Influenza and Other Respiratory Viruses*, volume 1, pages 19-25. Note that in this publication, the term iBioLaunch is not used to describe the technology because that commercial designation was created after the publication of these scientific data.

Because our iBioLaunch technology has proven useful at a laboratory level in the production of high value proteins of immediate interest as product candidates, we believe it can be applied to commercial product development and biologic pharmaceutical manufacturing. Advantages of our platform technology include its short development time-frame for the harvesting of the applicable protein or vaccine molecules and applicability to a broad range of disease agents. This has enabled us, at a laboratory level, to target rapidly evolving disease agents and develop product candidates which have demonstrated high safety, potency and efficacy in laboratory animal tests.

Target	Produced via iBio Launch	In vitro Characterization	Immunogenicity in Animal Model	Efficacy in Animal Model
<b>Vaccine Antigens</b>				
Influenza	*	*	*	Ferrets
Anthrax	*	*	*	Rabbits
Plague	*	*	*	Non-Human Primates
HPV	*	*	*	Mice
Malaria	*	*	*	Mice
RSV	*	*	*	Mice
Trypanosomes	*	*	*	Cattle
Measles	*	*	*	UT
<b>Monoclonal Antibodies</b>				
Influenza	*	*	NA	
Anthrax	*	*	NA	Non-Human Primates
Tetanus toxin	*	*	NA	UT
<b>Therapeutic/Diagnostic Proteins</b>				
Diabetes autoantigen	*	*	NA	UT
GM-CSF	*	*	NA	UT
Human growth hormone	*	*	NA	Rats
NA = Not Applicable; UT=Untested				

The Company believes its technology will create marked advantages over existing protocols. For example, current technologies for producing influenza vaccines in fertilized chicken eggs or by using cell culture-based manufacturing are characterized by:

- Low yields
- Overall lack of production capacity
- Long lead time between identification of new virus strains and the manufacture of the bulk quantities needed for flu epidemic or pandemic
- Impracticality of egg-based production for avian H5N1 vaccine because of high virulence to chickens and eggs

The iBioLaunch™ platform was developed in response to these concerns and is capable of:

- **Rapid & Efficient Production**—transient nature of the gene expression technology and short growing cycle of non-genetically-modified plants create time-efficient production capabilities.

- *High Production Capacity & Scalability*—nontransgenic plants can be easily scaled-up in contained growth facilities to provide large amounts of biomass and expressed protein in a short period of time.
- *Increased Safety*—plants are not infected with pathogens hazardous to humans or animals and the system eliminates the use of live infectious agents or tissues and materials of animal origin.
- *Low Cost*—facilities and source material provide economical product manufacturing capabilities.
- *Flexibility*—capable of rapid modification to produce enhanced vaccines in response to emerging or mutating virus strains

### **The View From AMI**

At the risk of over simplifying this, the Company has developed a platform that allows for the production of a variety of proteins inside of plants. The plant approach is perhaps superior to other technologies in that the proteins can be created and purified much faster (plants grow quickly), and since they are plants, the risk of using animal based processes in terms of animal based pathogens is eliminated. Moreover, the process in terms of apex is considerably cheaper than many current approaches. To put that into perspective, the Company's platform can create marked amounts of particular proteins in 6 weeks. By contrast, egg based vaccine technologies can take six months and again, bear the risk of contamination via potential animal borne pathogens. Actually that provides a segue into another important point here.

As we understand it, the Bill and Linda Gates Foundation has provided \$40 million worth of grants through FCMB, and the U.S. Defense Department has provided grants for another \$30 million. From that perspective, one could surmise that the Company has been the beneficiary of \$70 million of non-dilutive research. In addition, the participation/interest of these two entities probably addresses the talking points better than any other thing that can be said. In short, the Gates Foundation is interested in providing greater access to medical care and treatments to poor and underdeveloped nations. As we are all aware, many countries around the world suffer from a variety of ailments that are in part related to their socio-economic conditions. The belief is that for many of these maladies, vaccines may be able to be created that eliminate their impact. For example, the Company recently announced that they “*successfully expressed the hookworm-derived molecule known as NaAPRIM-74, which will be evaluated as a potential vaccine candidate for human hookworm disease.*” Hookworm is a parasite that “*currently affects more than 576 million people worldwide and is a leading cause of anemia in the world's poorest countries.*” While there are treatments for hookworm, it has a high rate of reoccurrence (likely related to the patient's continued exposure to the source). In that instance, a vaccine would be a major breakthrough in terms of controlling/eliminating the malady altogether. Further, because of the low costs associated with establishing and operating facilities to produce specific molecules, the Company's platforms could be deployed in places close to the source of the problem. Frankly, we would have to imagine that the nature of this technology (relatively inexpensive and highly scalable) is precisely the type of solution that entities such as the Gates Foundation are attempting to identify and proliferate.

In contrast to the Gates Foundation's interest, the U.S. Department of Defense (DoD) has another angle. The DoD is interested in having access to a great deal of vaccines available in as short a period of time as possible. Their concern would be more focused on something like mitigating an anthrax attack. Further, we would think that they would be interested in the fact that multiple manufacturing facilities could be placed in multiple (perhaps strategic) locations around the country.

From an operating standpoint, the Company suggests that the critical path probably involves licensing the platform to others who may have a desire to use it to manufacture specific molecules that they have developed. An instance such as that might include some sort of upfront license, milestone payments and perhaps an ongoing royalty stream. On the other hand, the Company may also, either on its own or more likely in other collaborative relationships (the hookworm vaccine is a good example), develop proprietary molecules. However, it seems remote that they will embark on that type of endeavor without the applicable capital to do so. Proprietary molecules without partners may be a longer term (post profitability) initiative. The point is, because this is a

platform that may be applicable to literally thousands of proteins/molecules, the number of potential (positive) outcomes for the Company is quite open-ended.

As we understand it, the Company is currently working on a pipeline of at least 10 proteins. In our view, that means there is the potential for catalysts in the stock coming from at least 10 different directions. Obviously, these 10 are probably all in different stages, but again, as we understand it, at least some of these are to a point where near term catalysts are possible.

To summarize, cheaper, faster AND better is always a lofty goal. Many new technologies/systems achieve substantial success by executing on just one of these. Being able to deliver on all three is a rarity. We are quite new to the IBIO story, and we will likely spend some time digging a bit deeper. Among other things, the considerable market cap speaks to the prudence of that. However, given what we have seen to this point, and assessing the potential on the surface, we think IBIO is very intriguing. In our opinion, if the platform proves capable of what they believe, this is a game changer on the biotech and pharmaceutical fronts.

We were introduced to IBIO story when they presented at our June 2011 conference in Denver, Colorado. As the description above suggests, there is a considerable amount of technology here (over \$70 million worth by our calculations). Moreover, as a platform, the opportunities are broad and potentially large. We believe there are scenarios that could lead to valuation events over the next 6 to 12 months. We recognize that the market cap is no drop in the bucket, which in the world of biotech, is not exactly atypical. Further, like most pre-revenue biotech's, they are burning cash and will likely need to raise additional capital even in the near term. That means more dilution is also probable. With those caveats in mind the story is as we said, quite open-ended. That is another way of saying high returns generally require high risk. To reiterate, at this point, we are trying to get our arms around the valuation in the context of the potential, as well as trying to better understand the timing of events, which is paramount to the dilution discussion. Answers to those things will go a long way in determining our confidence (or reluctance) in perhaps adding the stock to our coverage. We are intrigued by the prospects.

**Analyst – Dave Lavigne**

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# First Look



**Symbol:**

IKNX

**Approximate Book Value / Share:\***

\$ 6.20

**Approximate Current Ratio:\***

9.5 : 1

**52 Week High:\***

\$ 8.94

**52 Week Low:\***

\$ 6.16

**Price at 07/20/2011:**

\$ 7.37

**Approximate Shares**

**Outstanding:\***

2 million

**Approximate Float:\***

900,000

**Approximate 90-Day**

**Avg. Daily Volume:\***

1,131

**Approximate Cash Position:\***

\$ 3.5 million

**Approximate Market Cap.:\***

\$ 15 million

*Selected Financial Data sources:*

*\* Yahoo! Finance*

*(This company is NOT currently under coverage by AMI.)*

## Company Overview

*IKONICS Corporation (“IKONICS” or the “Company”) was incorporated in Minnesota as Chroma-Glo, Inc. in 1952 and changed its name to The Chromaline Corporation in 1982. In December 2002, the Company changed its name to IKONICS Corporation. The Company develops, manufactures and sells light-sensitive liquid coatings (“emulsions”) and films for screen printing and abrasive etching. The Company also markets inkjet receptive films and ancillary chemicals. The Company resells equipment and other consumables to provide a full line of products and services to its customers. In 2006, the Company began to offer custom technology services for silicon wafers, glass wafers, industrial ceramics and composite materials based on proprietary technology, and also began a research program to develop digital imaging technologies (DTX) for niche industrial markets. The Company’s products serve the screen printing, awards and recognition, signage, electronics, aerospace, and industrial ceramics and industrial digital inkjet markets, as well as other industrial markets. On December 29, 2006, the company acquired the image mate® line of screen print photochemical products and adhesives from Franklin International. These products continue to be sold under the image mate® brand, primarily through established image mate® distribution, although some cross fertilization between the image mate® and Chromaline brands does occur. In 2006, the Company established the IKONICS Imaging business unit. The IKONICS Imaging business unit includes PhotoBrasive Systems which provides products for the awards and recognition and monument markets. The IKONICS Imaging Business unit also develops the Company’s industrial digital inkjet and composite machining technology along with providing electronic wafer and ceramic etching services for industrial markets. In 2009, the Company’s industrial offering expanded to the Company’s new facility, which was completed at the end of 2008. In 2010, the Company sold its first DTX printer and developed proprietary photo resist films for the micromachining of electronic parts. The*

*Company has applied for patents related to the photo resist films. The Company currently does business in over 90 countries.*

*Traditionally, IKONICS’ technical strengths have been photochemistry and coated films. Its team of chemists and engineers have developed unique skills and proprietary and patented products. IKONICS also holds exclusive licenses from DuPont and the Aicello Corporation of Japan for photo resist films. These skills and products give IKONICS a strong IP base and advantage in its core markets and a platform on which to grow into new markets.*

The Company's legacy business is as a provider of disposables in two primary product lines, screen printing and etching, and the Company sells those products domestically as well as internationally into approximately 90 countries worldwide. In that regard, each of those pursuits involve a small handful of competitors, both larger and smaller, and the traditional end markets could largely be described as mature. On the face, that notion is largely borne out in the financials, which reflect somewhat limited but generally consistent revenue growth, coupled with attractive margins. In that environment, the Company has been able to post earnings growth in excess of that on top line, because of the leverage in the business, that is, a preponderance of fixed costs relative to variables costs and sufficient capacity to address the limited growth. The Company recognized some time ago that its growth was limited by the nature of its existing markets and has added some pieces to the business that include entrées into more commercial centric applications of their technology. Those entrées include endeavors that, much like the core business, will include disposable/recurring products.

## **Product/Service Overview**

### **Screen Printing – Chromaline**

*In its 50-plus year history, Chromaline Screen Print Products has evolved to take advantage of an ever-changing competitive environment. Chromaline continually invests in the research and development of new products and technology including its own photopolymer molecule, IKONICS' A.S.M. Imaging Technology. Additionally, Chromaline continually seeks out technological leaders in order to leverage its own position as market leader or technological adjunct. Alliances with companies such as DuPont™, Corel Corporation® and Imaging Technology International are examples. IKONICS Corporation first received ISO 9001 Certification in 1994, and has been recertified each year since. The ISO 9001 Certificate is awarded to companies that meet the rigorous and comprehensive quality standards of the internationally recognized quality certification program. The domestic screen printing industry (as well as the etching industry) is largely mature, and the Company primarily competes with two large players in the space, and collectively those enterprises provide a variety of the applicable products to the market. What that implies is that the Company's domestic growth opportunities are limited, but with only a handful of players, margins tend to remain attractive. In that regard, while pricing is always relevant, the Company does not typically compete on price, but rather, its comparative advantages tend to be based on relationships, geography, customer service issues, etc.*

### **Etching/Sandblasting - IKONICS Imaging, Inc.**

Photobrasive etching sometimes referred to as sandblasting, is the process of transferring images into (as opposed to onto) hard surfaces such as glass or stone. The etching process is similar in some respects to the screen printing process in that an image is designed and transferred to a special film (manufactured by the Company). The Company has developed films which can accept the image and then be stuck directly on the substrate (glass, stone, etc.) avoiding the emulsion step referenced above. (However, there are sandblasting applications that utilize emulsions which the Company also sells.) Once the film is attached, it can be sandblasted in a standard sandblasting system. Typically, sandblasting is done in a special enclosed machine. Inside a sandblasting chamber an abrasive, such as aluminum oxide or silicon carbide (like fine sand), is forced via compressed air through a handheld device much like an airbrush. The image embedded film that is placed on the substrate is also prepared via a photo process that essentially makes the image detail more brittle in the places the light has exposed. The sandblasting process erodes away the brittle outlines and eventually erodes the substrate thus permanently etching the surface with the image.

Photobrasive etching is used to make a myriad of products including awards, memorials, signs, decorative windows and a host of other products. In addition, it is applied to a variety of substrates including glass, rock, metal and other hard decorative surfaces. The Company provides a variety of products that enable photo etching enterprises that create and sell these applicable products. Some of the Company's products in that regard are proprietary, for example some of their films (which actually simplify traditional etching processes), while it also (re)sells a number of other products that enable the process.

As with the screen printing business, the etching supply business is dominated by a small handful of players. The Company indicates that it has only one other measurable domestic competitor in the space. That notion again speaks to the limited size of the available market and therefore the Company's growth opportunities therein, however, it also speaks to the Company's ability to maintain attractive margins given the lack of competition. Additionally, I think it is fair to say that the Company's recognized knowledge base in the etching business has lead it to opportunities in commercial endeavors that may ultimately provide a growth component to the story that is not available in the legacy business.

### **Photo Machining- IKONICS Industrial**

*"Our Photoresist technology coupled with abrasive etching is the basis for our Photo-Machining Process (PMP). This process is used to selectively remove material from a variety of hard and brittle surfaces. Because PMP is a photographic process, precision tolerances down to 50 microns (0.002") are easily reproduced. Layered or coated substrate surfaces can be modified, patterned or channeled to achieve the desired end product. A variety of surface finishes are possible. Typical depth uniformities are possible within 50 microns (0.002") across a 30 cm length. PMP can remove material at a rate much faster than many conventional machining methods, such as milling, ultrasonic machining, etc., and is best suited for symmetrical flat or cylindrical substrates. PMP combines proprietary photoresists with fine particulate abrasive etching to create a variety of precisely machined parts. The process is simple, quick and less expensive than many conventional machining methods. While PMP does not entirely displace the need for conventional machining, it opens up opportunities as an excellent alternative in a wide range of applications."*

Photo Machining is one of the newly added pieces to the Company. As the above points out, the Company's PMP process may have some application in a variety of industries, most notably the electronics industry where precision wafers are used to create semiconductors, as well as in the aerospace industry. Typically, a pattern is cut into the silicon wafers to accommodate the structure of the resulting semiconductor. While there are a variety of methods deployed to cut, etch or otherwise create those patterns, the Company believes that their PMP process may be more cost effective and faster than existing methods in certain instances, and therefore may be applicable to particular opportunities. The Company has actually processed some jobs in this space (albeit on a limited almost beta-like basis), and to this point, it has offered PMP primarily as a service. However, their belief is that they may be able to capture portions of these applicable markets on some levels. For example, PMP may be particularly topical to the creation of prototypes to address new designs where fast turnaround and easy modification is a necessity.

### **Digital Texturing-IKONICS Digital Texturing**

*Digital Texturing relies on the digital rendering of texture artwork. Using IKONICS proprietary technology, including the IKONICS DTXJet™, the digitized artwork is used to create a self-adhesive acid resist film, which ultimately becomes the "stencil" or "template." As such, the challenge of registration, particularly with multi-level textures, is significantly reduced.*

*Due to the combination of digital imaging and our proprietary, jetable acid resist fluid, Digital Texturing provides texturing professionals the ability to improve their performance in applications where fine line definition is a challenge using the common "wax" method. While wax is inherently imprecise, the Digital Texturing process is not subject to the operational idiosyncrasies of individual craftsmen.*

*Digital Texturing can dramatically improve cycle time. Since textured films are produced using digital artwork, files may be easily altered, edited or reproduced in a timely manner. Operationally, Digital Texturing films, including DTXFlex™, with an inherently flex-sensitive characteristic, allow operators to accommodate complex curves, corners, recesses and protrusions.*

*Due to the DTXJet's large bed size, pattern creation of up to 36" x 48" is simple, fast and accurate. This significant advantage results in less "tiling" or "seaming" during production, saving time and improving quality.*

“Digital Texturing” (“DT”) is another new wrinkle for the Company. Much of this opportunity has been created by the Company’s efforts to utilize their knowledge base in inkjet receptive technologies to develop new approaches to a very large industry. The auto industry is one example of a large injection molding user, as many portions of an automobile both interior and exterior are created via injection molding. Specifically, it appears that dashboards and other interior parts are perhaps the focus of some of the initial opportunity here. As we understand it, the Company is trying to supplant some rather dated and perhaps laborious approaches to etching patterns into the molds used in the plastic injection process. Simply put, injection molds come in various shapes and sizes. That is, they are more likely to involve a series of curved surfaces, which poses a different set of challenges than for example etching the flat surfaces one would find in the core etching business. Conceptually, one could see where that type of surface might be harder to etch in a uniform manner than a flat surface.

### **IKONICS Advanced Materials**

*Traditionally, composites have been machined using conventional CNC drilling, punches, lasers, and abrasive water-jet technologies. Expensive, specially coated drills wear out quickly causing burnishing, tearing and changes in hole dimensions. Punches and other tooling eventually dull, bend and may break. Lasers can burn surfaces, and all of these methods can cause de-lamination. Even abrasive water-jet systems will cause de-lamination unless the process is well tuned. Further, abrasive water-jet systems cannot control depth for blind holes or cavities, and are a high cost investment.*

*While not a total replacement for any of these machining methods, Photo-Machining overcomes many of the issues indicated. This innovative process uses well-established technology.*

*It is excellent for producing perforations, blind holes, cavities, and other geometric features over large surface areas. This is particularly true for array patterns where multiple holes and/or other features are required. This process allows for such features to be produced simultaneously, with ultimate precision.*

- *No hole burrs/spurs to remove.*
- *Minimal tooling and setup costs.*
- *Rapid turnaround and exibility for design or pattern changes with little cost or lost time.*
- *No degradation in quality from part to part.*
- *No burning or de-lamination of layers during perforating or cutting.*
- *Precision depth control for blind holes or cavities to within 25µm.*
- *Thru-holes or features with size accuracy and repeatability within 10µm.*
- *Precision positioning +/- 25µm over entire area being perforated.*
- *Excellent for perforating large area hole array patterns simultaneously (not one hole at a time) and removing large amounts of material quickly.*
- *Every hole/feature is present – no skips or dropouts due to punch breaks or drill misses.*
- *Fast, low-cost process: through put not a function of the number of holes per part.*
- *Holes/features capable of being positioned within 5µm of each other.*
- *Controlled taper (cone shape) enhances sound attenuation for acoustic applications.*
- *Process allows perforations to be made in laminated composite structures (composite applied to honeycomb core).*
- *Any number, size or shaped hole or feature (including cutouts) is produced at the same time.*
- *100% Dry process - no water, slurries or solvents used.*
- *Process is easy to control; has broad latitude; and can be automated to reduce labor.*

### **IKONICS Custom Inkjet & Substrate**

*IKONICS Custom Inkjet & Substrate provides contract R&D, coating and manufacturing services for organizations seeking specialized, custom product development.*

## **The View From AMI**

IKONICS was a previous EdgeWater Research (Accredited Member's predecessor company) coverage stock. At the time, the Company was operating their two legacy businesses profitably (albeit with limited growth) and those businesses provided technical expertise into some potentially large and growing markets. In short, we saw the core business as holding its own, but more importantly generating the cash and technology necessary to launch the new divisions. Unfortunately, like most companies, IKONIX was negatively impacted by the recession, which in retrospect, along with compromising the core business profitability, also essentially delayed the rollout of the new lines.

Today, while the core pieces continue to slug it out, it looks as though they are gaining traction in these new portions of the business. We think these businesses afford them significant potential opportunities in the coming quarters.

The stock currently has a market cap of \$15 million, which represents about 1X fiscal 2010 sales. Further, the book value of the stock is \$6.20, so the stock is trading at only a slight premium to book. The current cash position (including short term investments) is about \$3.5 million or about \$1.75 per share. The Company also recognizes annual non-cash charges for depreciation and amortization of about \$450,000 or about \$.23 per share. On the face, the stock appears to be one to watch as a value play, however, we think there may be some emerging pieces that may provide a growth element to the Company that has not existed for some time.

In our view, if the new divisions begin to contribute over the next few quarters (as we think they may) the result should be a marked expansion in both top and bottom line performance, which we believe could provide the catalyst for an expansion in the underlying stock value. The Company has historically repurchased shares in the open market although not in significant numbers. This is one to keep an eye on.

**Analyst – Dave Lavigne**

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# “Second” First Look



**Symbol:**

AEMD

**Approximate**

**Book Value / Share:\***

\$ -.13

**Approximate Current Ratio:\***

n/a

**52 Week High:\***

\$ 0.32

**52 Week Low:\***

\$ 0.08

**Price at 07/20/2011:**

\$ 0.098

**Approximate Shares**

**Outstanding:\***

73.98 million

**Approximate Float:\***

65.99 million

**Approximate 90-Day**

**Avg. Daily Volume:\***

353,098

**Approximate Cash Position:\***

\$ 230 thousand

**Approximate Market Cap.:\***

\$ 8 million

*Selected Financial Data sources:*

*\* Yahoo! Finance*

Not too many days ago, I wrote a short, “First Look” review on Aethlon (OTCBB-\$0.12). I’m attracted to it because of its staggering curative and potentially extensive medical technology platform. But this is nothing new! It has been in this state of stasis for what seems like years. The real excitement comes from the fact AEMD seems poised to move from its development-stage “cocoon” to a revenue generating, fast-track medical device, operating company within the next few months.

Well, three days after the May AMI Analyst Report publication, AEMD announced a new twist to their technology portfolio with the introduction of another revenue generating facet of the Hemopurifier®. Let’s review the technology around the Hemopurifier (HP) to help elucidate the original excitement.

AEMD produces the Hemopurifier® and, in its current form, it has shown to reduce the viral load by collecting all forms of viruses from the blood as well as removing related immunosuppressant particles. It’s like an extracorporeal vacuum cleaner of germs (viruses) for the blood. Their device readily attaches to the thousands of dialysis machines located around the globe, but unlike dialysis treatments prescribed for the normal course of treatment for kidney failure, it essentially mimics the body’s own immune response system when attacked by viruses. It has been shown in vitro to work on a broad spectrum of some of the worse viral toxins known to humankind (think Ebola, Monkey Pox {the analogue for Small Pox}, Dengue Hemorrhagic Fever and many others) by some of the most prestigious virology research labs on Earth. In fact, it has been demonstrated to act in vivo on both Hepatitis C (HepC) and HIV where it worked to dramatically remove/reduce the viral load of these two viruses from the blood stream with multiple treatments.

There is currently a dual-arm trial proceeding in India where patients with HepC are being simultaneously treated with the standard of care therapy (which only has a 45% to 50% success rate when treated as a monotherapy) and viral “straining” of the blood with the HP. Other successful studies have shown using more primitive techniques that reduce the viral load of HepC from the onset, for just a short period of a few days, greatly enhances the ending “cure” rate, or “sustained virologic response.”<sup>1</sup>

<sup>1</sup> *The clinical validation for therapeutic filtration of HepC has been established by the VRAD system developed and marketed by Asahi Kasei Kuraray Medical in Japan. When the early administration of VRAD is performed in combination with SOC (Standard Of Care) therapy, it achieved a 71.4% sustained virologic response rates in HepC patients who previously failed SOC Treatment. The results were achieved based on a once-a-day administration of VRAD over three consecutive days at the beginning of SOC therapy. The average viral load reduction during each treatment period, which averaged 3 1/4 hours in duration, was 26.1%. This is significant improvement compared to a normal second treatment success rate (only in the low teens) and with one of the new, very special adjunctive drug therapies (50%) that is being reviewed by the FDA.*

Aethlon is essentially attempting to demonstrate that their more effective approach of reducing viral load with the HP while simultaneously administering the standard of care pharmaceutical treatment may boost sustained virologic response well beyond that obtained by earlier adjunctive therapies. Theoretically, the “cure” rate could be boosted into the 90% range if the trajectory of declines in starting viral loads and SOC effectiveness play out.

Now, the new angle that AEMD is now forwarding is how the Company can suspend monoclonal antibodies and other affinity drug agents within the Hemopurifier—using similar technology that binds their lectin-attractants to the separating fibers—thereby providing a novel and potentially expedited pathway for new drug commercialization. Think about what was just stated. You have a new drug that is still under developmental or has been shown to be very effective against a certain, life-threatening disease condition, but it has serious side effects or grave drug-drug interaction effects or may even need to complete very expensive Phase III trials. This technology allows an alternative path for either development or commercialization or both.

For example, the developing company could suspend the experimental drug in the fibers of the Hemopurifier, treating the disease through the patient’s blood excorporeally—outside the body itself—so that the drug doesn’t actually contact the patient. It leaves the good components of whole blood in the fluid while treating just the bad parts. The technology should attack only the disease that is targeted as well as lowering the disease load so that the patient’s own immune system can work more effectively or other treatment therapies can be employed more effectively.

The negative aspects of a new experimental drug are reduced: A) there are no drug-drug interactions because the experimental drug remains outside the patient’s body; B) there is little threat of drug toxicity because the drug is maintained outside the body and C) much higher dose loads can be used without it being a threat to the liver or other organs because the experimental drug is, again, outside the body. In our original “First Look” Report, it’s what DARPA attempted to do treating wounded soldiers for infection on the battlefield but excorporeally ...outside the body.

This means there could be a wholly new pathway for the approval of new drugs. Think about it: this requires a “device” approval, which has a much lower consent sanction than a “drug” approval. Also, the cost of wending through the approval process is far less costly.

This last statement warrants some further discussion. Think about how the FDA approval process has changed over the last 40 years. Getting a drug approved has become incredibly costly (approaching over \$100 million) and takes easily 10 years. It is posited now that only one drug in 10,000 actually makes it to the marketplace. With many drugs that have a decent chance, the developers don’t even want to risk that last trial phase or pay for the marketing effort but instead sell-out to Big Pharma. And, those options and prices aren’t as generous as they use to be.

This new use for the Hemopurifier...called the ADAPT™ (short for Adaptive Dialysis-like Affinity Platform Technology)... could generate all matter of numbers of new partnerships. It is management’s design that the ADAPT approach with a new drug developmental partner would be a licensed arrangement. This means that AEMD would probably get an up-front fee (I’d assume \$50 thousand to \$200 thousand) and then depending on the purported difficulty of regulatory approval as a drug, a royalty would be paid once “device” status is granted on every combined therapy treatment given. We are assuming that the eventual device cost for the Hemopurifier will approach \$1,200 in the US. Given this retail rate, the combined royalty rate received should be somewhere between \$800 and \$1,000. This could become a very meaningful revenue source.

**Analyst – Marc Robins**

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## Summary of AMI Members Only Research Coverage Performance

Accredited Members, Inc.								
Members Only Research Coverage								
CURRENT COVERAGE PERFORMANCE								
Company	Symbol	Current Allocation	Coverage Initiation or Upgrade	Price @ Initiation	Target Price	Price @ 7/20/11	Current Profit/Loss	Current P/L %
Proprietary Research - Members Only	A123	4	6/17/09	\$ 6.21	\$ 12.00	\$ 3.75	\$ (1,584.54)	-40%
Proprietary Research - Members Only	B123	4	7/24/09	\$ 0.13	\$ 0.90	\$ 0.69	\$ 8,703.13	435%
Proprietary Research - Members Only	C123	4	9/3/09	\$ 1.13	\$ 2.50	\$ 1.05	\$ (276.60)	-7%
Proprietary Research - Members Only	D123	4	11/3/09	\$ 5.85	\$ 12.50	\$ 0.67	\$ (3,541.88)	-89%
Proprietary Research - Members Only	E123	2	1/4/10	\$ 2.40	\$ 5.00	\$ 4.55	\$ 1,789.58	89%
Proprietary Research - Members Only	C123	1	2/22/10	\$ 1.00	\$ 2.50	\$ 1.05	\$ 50.00	5%
Proprietary Research - Members Only	C123	1	10/14/10	\$ 0.48	\$ 2.50	\$ 1.05	\$ 1,187.50	119%
Proprietary Research - Members Only	H123	4	12/22/10	\$ 3.88	\$ 6.75	\$ 6.46	\$ 2,659.79	66%
Proprietary Research - Members Only	I123	4	2/7/11	\$ 1.10	\$ 2.50	\$ 1.59	\$ 1,781.82	45%
Proprietary Research - Members Only	D123	1	3/16/11	\$ 5.95	\$ 12.50	\$ 0.67	\$ (887.39)	-89%
Proprietary Research - Members Only	L123	6	4/5/11	\$ 3.22	\$ 5.00	\$ 3.73	\$ 950.31	16%
Proprietary Research - Members Only	M123	2	4/18/11	\$ 0.65	\$ 1.80	\$ 0.41	\$ (753.85)	-38%
Proprietary Research - Members Only	N123	2	5/5/11	\$ 4.45	\$ 9.00	\$ 4.90	\$ 202.25	10%
Proprietary Research - Members Only	O123	3	5/24/11	\$ 0.40	\$ 10.00	\$ 0.32	\$ (600.00)	-20%
Proprietary Research - Members Only	P123	4	6/1/11	\$ 0.10	\$ 11.00	\$ 0.08	\$ (800.00)	-20%
TERMINATED POSITIONS								
Stock	Symbol	Coverage Initiation	Termination or Downgrade Date	Cost	Termination or Downgrade Price	Profit/Loss	P/L %	Approximate Annualized Return
	B123	7/24/09	10/7/10	\$ 0.13	\$ 0.42	\$ 4,492.19	225%	186%
	E123	1/4/10	2/7/11	\$ 2.40	\$ 4.76	\$ 1,966.67	98%	90%
	K123	3/29/2011	6/14/2011	\$ 7.40	\$ 12.28	\$ 2,637.84	66%	313%
COMPARATIVE ANALYSIS TO MAJOR INDICES								
				Assumed Dollars Invested	Assumed Value @ 7/20/11	Current Profit/Loss	Current P/L %	Approx. Compounded Annualized Weighted Average Return
Accredited Members Proprietary Research				\$ 41,541	\$ 59,518	\$ 17,977	43%	43%
Dow Jones Industrial Average				\$ 41,541	\$ 49,367	\$ 7,826	19%	19%
S&P 500				\$ 41,541	\$ 48,619	\$ 7,078	17%	17%
NASDAQ Composite				\$ 41,541	\$ 50,656	\$ 9,115	22%	22%
Russell 2000				\$ 41,541	\$ 52,131	\$ 10,590	25%	25%

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-Continued from Page 1 - 

Our initial introduction to Ben occurred when we hired him to do the keynote address at our March 2011 conference in Colorado Spring, Colorado. That wasn't hard. Ben, like many high profile individuals, engages speaking bureaus that book them to deliver speeches for a variety of organizations. Some might be surprised at who they get to come speak to them if they are willing to put up enough money. In short, we paid Ben to speak, and he showed up and spoke. However, after hearing his address, it dawned on us that perhaps we could attempt to get him more involved. The trouble was, given his considerable background in finance, he had to be convinced

that we were doing something worthwhile in that regard, and frankly, that we weren't going to do things to make him look bad. As former NFL great Spencer Tillman (also one of our keynote speakers) noted at our most recent conference (to paraphrase), it takes a long time to build a great reputation, but just a few minutes to destroy it. I can assure you, Ben has no interest in the latter.

To that point, subsequent to becoming our spokesman, Ben took a bit of flack by some blogger(s) who suggested Ben was "selling out" for money. Specifically, as I noted, Ben has done a great deal of financial writing and commenting, and in that process apparently addressed some of the pitfalls and/or dangers of micro cap and small cap companies. I use the term apparently because I have never read the comments to which they referred, but it is not difficult for me to believe that he said/penned them. As I said, getting Ben onboard involved convincing him that we were doing something of value. That being the case, the logic would dictate that perhaps his initial skepticism of us had at least something to do with his skepticism of the micro cap space in general. Since Ben is well educated and well versed in financial theory, it took some effort to convince him of our merits.

He took the time to read our research, look at our platform and, perhaps more importantly, sit down with us and hear our case about the values that informed micro cap investing can yield. I can assure you of this as well; those discussions were pointed and quite weighted towards financial market theory and to the role of micro caps therein. They also included Ben's friend and co-author, Phil DeMuth. Phil is Managing Director of Conservative Wealth Management LLC, a "registered investment advisor to high-net-worth individuals, institutions and foundations." Like Ben, Phil is no stranger to investments or the theories that drive them. To be honest, stating our case before the two of them was a bit daunting.

The takeaway from those discussions, aside from Ben's decision to sign on, was quite simple. They did some work and determined that the relative long term performance of the asset class was favorable, and as such, held merit in terms of consideration for the portfolios of some people. (Their report in that regard is one of our free publications by the way.) However, what I think they also recognized was something that has essentially become our mantra. Because the micro cap space is under-followed and perhaps even largely ignored by much of the investment community, it is (by financial theory definition) "inefficient." In the purest application of efficient market theory, only inefficient markets hold the opportunity for truly consistent "extraordinary" returns.

Circling back to the bloggers suggesting that Ben sold out, we would like to think that perhaps what really happened is that maybe we actually changed Ben's mind a little bit. I don't pretend to know what Ben Stein is thinking, but I do know that he became our spokesman, and I do know that it took some convincing to get him to that point. In the end, no one should do anything in the financial markets solely because Ben Stein or anyone else tells them to, and in that regard, Ben's affiliation with us should not be construed as a wholesale embrace of all things microcap. However, and aside from our affiliation with Ben, we stand steadfast in the arguments we made to him regarding small public companies. That is, like all public companies, (successfully) investing in them requires work, and we do a great deal of that around here. Further, it also requires an open mind, which recognizes that small is not synonymous with high risk and failure, just as large is not synonymous with safety and success. We are quite pleased to have Ben as our spokesman, in part because we are happy to be affiliated with intelligent well-informed people, who by the way are typically the hardest individuals to gain affiliation with.

**Analyst – Dave Lavigne**

**Continued From Page 1 - **

cash it creates than with the earnings it posts. Frankly, I couldn't agree more. Personally, I would rather own a company that generates zero "earnings" but \$100,000 worth of cash flow, than a company that generates \$50,000 worth of earnings and the same \$50,000 worth of cash flow.

Clearly, most of us can agree that EBITDA proponents are correct in focusing on cash flow, which is a real economic gauge rather than earnings, which is an accounting gauge. Most of that argument centers on the fact that the Depreciation and Amortization portion of the EBITDA equation are non-cash expenses. In other words, when you depreciate an asset, you expense a portion of its original cost, which reduces earnings, but does not reduce cash. That process continues until the asset's value is depleted from the balance sheet. In effect, to the degree that an asset's actual useful life (maintenance included) is greater than its accounting life, the true earnings of the company will be understated by that difference over the period of time during which it was "over depreciated". That sounds more complicated than it is. In effect if you depreciate an asset over five years, you would reduce it by one fifth of its cost for each of five years, and charge that amount against earnings each year. But, if the asset actually lasts 10 years before it falls apart and you have to buy a new one, then in retrospect maybe it should have been depreciated at a rate of 10% for each of 10 years rather than 20% for each of 5 years. That discrepancy is the logic behind part of the EBITDA proponents' view.

That's all easy enough to see, in fact conceptually, most EBITDA detractors wouldn't even disagree with that position. The problem is, that view still doesn't address the Interest and Taxes part of EBITDA, which is the portion that bugs everyone. The reality is that EBITDA was never meant to be a measurement of a company's cash flow; rather it is only part of a measurement of a company's cash flow. More specifically, it is part of a discounted cash flow analysis (DCF) that is used to arrive at a company's valuation in terms of the present value of the cash flow it generates in the future. In fact, in that context, adjustments for interest and taxes need to be made to the typical cash flow number and here's why.

I use discounted cash flow as the basis of my valuations and price targets because I think it is the most accurate form of stock valuation relative to other financial instruments. Bonds are valued in the marketplace by discounting their future cash flows back to a present value. In the case of a bond, that's a fairly simple process because the scheduled cash flow amounts and payment dates are known. The only mystery is trying to determine the risk that the payments won't occur, and reflecting that risk into the discount rate. In my view, the same valuation technique makes sense for a stock as well. My view is that whether or not it's a bond or a stock, the goal is to end up with more value than you started with which we happen to value in dollars/cash. The value of the asset should be based on the degree to which it is able to achieve that end. DCF utilizing EBITDA provides a framework to reflect that notion in present dollars.

That being said, using DCF to value a stock requires a few more assumptions than it does when valuing a bond. For starters, we have to take a stab at what we think the cash flows will be in the future rather than relying on a predetermined repayment schedule. That's why analysts build financial models and spend so much time deriving projected earnings. Next, we need to recognize that our model will be wrong and try to make a determination about the *degree* to which it will be wrong. The greater our likelihood of error, or perhaps the less visible the company's performance, the more we tend to increase the rate at which we discount the projected cash flows projecting the risk of that uncertainty.

Once we feel comfortable with those components, we have to make the cash flow analysis of our equity, "apples to apples" with that of the bond analysis. This is where EBITDA comes in. Why would we eliminate the company's tax expenses from the future cash flow components? Because the cash flow analysis done on a bond is typically done on a pre-tax basis. When we discount the cash flow from a government bond to arrive at a present value, the future taxability of those payments is not considered. Rather, taxation is an issue specific to each owner. Consequently, using DCF to arrive at equity valuations must likewise be done on a pre-tax basis.

Like tax expenses, interest expenses also require adjustment when considered in the context of DCF. Typically, when we use DCF, we arrive at the present value of the company's future cash flows, and then we make some adjustments to the existing balance sheet to arrive at an ending value. In the case of a company's debt, those obligations are generally subtracted from the ending present value of the cash flows to arrive at the *net* value.

(Actually, we also sometimes add back the cash position to arrive at an “enterprise value”). If the present value of a company’s projected cash flow is \$100 million, but the company has \$40 million worth of debt, presumably a sale of the company would be predicated on the payoff of the debt. So, the buyer might pay \$100 million, but the seller will only receive \$60 million after paying off the debt. The \$60 million represents the net present value of the company. By the same token, that is why the interest expense is added back to the cash flow since the buyer would not be making those interest payments because the debt obligations would have been eliminated at the time of the sale.

Conclusion: like most financial ratios/tools, EBITDA is a valuable bit of information when used in the proper context, and in conjunction with other information. Specifically, we think it is often quite topical to many small companies, because, for a variety of reasons, there can often be considerable differences in their EBITDA and their earnings numbers. Further, because access to capital seems to be a continuing challenge to small companies, the fact that they may actually be generating cash while actually posting earnings losses may create opportunities for investors who are paying attention to the detail.

**Analyst – Dave Lavigne**

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