

Research Update

Investors should consider this report as only a single factor in making their investment decision.

Competitive Technologies, Inc.

Rating: Speculative Buy

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November 18, 2011

CTTC \$1.63 — (OTC PK)

	FY2010A	Transition Period *(A)	2011E	2012E
Total revenues (in millions)	\$2.0	\$0.2	\$3.9	\$4.9
Earnings (loss) per share	(\$0.25)	(\$0.18)	(\$0.21)	(\$0.06)
52 - Week range	\$2.00 – \$0.92		Fiscal year ends:	December*
Shares outstanding as of Nov. 14, 2011	14.3 million		Revenue/share (ttm)	\$0.24 ⁽¹⁾
Approximate float	12.6 million		Price/Sales (ttm)	6.8X
Market Capitalization	\$23.2 million		Price/Sales (2012)E	5.5X
Tangible Book value as of Sep. 30, 2011	(\$0.03)		Price/Earnings (ttm)	NA
Price/Book	NM		Price/Earnings (2012)E	NA

*Fiscal closing has been changed to December from July. FY2010 figures are for the year ending July. Transition period is August to December 2010. ⁽¹⁾ Eleven months ending September 30, 2011.

Competitive Technologies, Inc., based in Fairfield, Connecticut, manufactures the MC5-A pain therapy device, a transcutaneous electrical modulation pain reprocessor for the management of pain in patients not sufficiently responsive to drugs and other therapies. The MC5-A is sold to hospitals and pain therapy clinics. The MC5-A is sold in the US by contracted commission sales representatives. Overseas sales are made by distributors.

Maintaining Speculative Buy rating and \$2.00 (12-month) price target.

CTTC's licensed MC5-A pain therapy device treats cancer-related and neuropathic pain that afflicts several million patients who have failed to find relief. If the MC5-A penetrates as little as 2% of the estimated target market, revenue upside could be substantial.

The reorganization of the past few months, the resumption of overseas sales and increased experience in the US sales force should enable the company to increase sales sharply. A combination of MC5-A sales gains and margin improvement could potentially make operations profitable and cash flow-positive by early 2013.

We project a 2011 loss of (\$0.21) per share [including an arbitration award to the former CEO] on product sales of \$3.9 million. For 2012, we project a loss of (\$0.06) per share on revenue of \$4.9 million.

In 3Q11 (results reported Nov. 14, 2011), CTTC lost \$538,000 million or (\$0.04) per share on revenue of \$1.2 million. We projected a loss of (\$0.04) per share on revenue of \$820,000. As CTTC's fiscal closing changed in 2011 there is no directly corresponding year-earlier quarter but in the quarter ending October 31, 2010, the company lost (\$0.08) a share on revenue of \$108,000.

CTTC's cash position is tight. We project a need for an estimated \$3 million in additional financing in 4Q11.

See disclosures on pages 16 - 18

Investment Recommendation

Investment rating – Speculative Buy. \$2.00 (12-month) price target.

After significant disruption in its operations in 2010, CTTC has regained stability. A reorganization reduced overhead costs and the distribution agreement with a large unproductive overseas dealer was restructured. With CTTC's sales effort reorganized, the MC5-A pain therapy device should gain traction in the months ahead.

During the next 12 months, the stock should trade at 7X estimated 2012 revenue per share of \$0.31 or \$2.00 per share. Our target implies year-ahead price appreciation potential of 23%.

A comparison group of 140 medical device and instrument stocks with market values under \$250 million is trading at a trailing price to sales multiple, excluding extreme highs, of 7.3X vs. 6.8X for CTTC. Three months earlier, the trailing price to sales multiples for the comparison group and CTTC were, respectively, 7.7X vs. 8.4X.

In our view, the stock has considerable longer term upside but its risk profile makes it suitable only for highly risk tolerant investors. If CTTC does not achieve a large measure of the revenue we have projected, operating losses and cash burn could undermine the company's ability to continue as a going concern.

Recent Developments

First Sale to US Department of Veterans' Affairs On October 17, 2011 CTTC announced that it sold an MC5-A Scrambler Therapy^(TM) medical device to the Veterans Affairs Medical Center in Jamaica Plain, MA. Penetration of this market is a key objective for CTTC.

New Overseas Distribution Agreements On September 21, 2011, CTTC announced that it signed two new international distribution agreements that have resulted in immediate orders for MC5-A medical devices. The new distributors are Ahsan Anaesthetist Ltd., which will be responsible for sales in Ireland, and the Mediterranean for Technology & Trading SAL Offshore (MTT- Elyssa Holding), which will be responsible for sales in 16 countries in the Middle East and North Africa.

Overview

Competitive Technologies, headquartered in Fairfield, Connecticut, was established in 1968. The company, which went public in 1984, was managed by a group led by a former CEO from 2007 until September 2010, when the CEO was dismissed. The proxy statement of March 18, 2011 (latest on file) listed the largest shareholders as the Peter Brennan Group (9.4% of outstanding shares) and William L. Waters Ltd. (5.4% of outstanding shares). Directors as a group owned 2.2% of outstanding shares.

CTTC previously offered technology transfer services. The company licensed technologies from clients, obtaining licenses or rights to intellectual property on a broad array of technologies – life sciences (healthcare), electronics, nano science and physical sciences – from universities, companies, inventors and patent or intellectual property holders. Licenses and rights licensed by CTTC from clients were in turn licensed or sub-licensed to customers, including large multinationals seeking to augment their product development efforts and enlarge their pipelines.

Historically, CTTC's revenue consisted mainly of royalties which, in most years, were insufficient to cover costs and expenses. But with the commercialization of the MC5-A, CTTC's revenue from medical device sales could enable the company to build a basis for a large long term revenue stream. The pain management technology licensed by the company in 2007 potentially has the clinical utility that would drive broad acceptance as a pain therapy and underlie substantial revenue upside.

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Marketing efforts have been aimed at pain management clinicians, government healthcare institutions and hospitals. The company has signed distribution agreements covering overseas markets and established a 20-person group of US independent commission sales representatives. But due to internal turmoil that led to the dismissal of CTTC's CEO in September 2010, poor performance by the company's largest overseas distributor, and the inexperience of the US sales force, the MC5-A was unable to establish the traction essential to a sustained revenue stream.

Sales started to ramp in 2011, reflecting increased effectiveness of reorganized overseas distribution, the growing experience of the US sales force and widening acceptance of the MC5-A. Between higher sales and deep cuts in overhead following CTTC's 2010 restructuring, losses should narrow sharply.

Cash burn and working capital needs will have to be covered with an additional \$3 million in financing by the end of 2011. We have projected a 4Q11 sale of common stock to reflect additional financing.

Outlook

Clinical results and early sales suggest impressive potential for the MC5-A. However, significant hurdles lie ahead. Limited trials have demonstrated the MC5-A's clinical utility but since it did not have to meet the FDA's Pre Market Approval (PMA) requirements, the product was not subject to more rigorous clinical trials, data from which might have established its effectiveness more convincingly. The lack of more extensive clinical data could delay acceptance of the MC5-A among opinion leaders. So could lack of a better understanding of its mechanism of action.

Clinical experience with the MC5-A is limited so treatment protocols have to be tested further and refined to a point where reproducible outcomes can be achieved in specific indications.

In July 2011, the company announced that the American Medical Association established a new CPT (Current Procedural Terminology) Category III code to report procedures, such as treatment of chemotherapy-induced peripheral neuropathy (CIPN), involving company's pain therapy medical device, the MC5-A. The new CPT code is 0278T, for each transcutaneous electrical modulation pain reprocessing treatment (includes placement of electrodes). The establishment of this CPT code should enable physicians to more easily identify MC5-A treatments and apply for insurance reimbursement. Category III codes are reserved for new and emerging technologies.

Reimbursement is not yet well established so potential high-volume users might be reluctant to make purchase commitments for a \$58,000 (in the US) device. CTTC has hired consultants to assist US customers in securing reimbursement for MC5-A procedures but obtaining widespread approval could be a slow process. On a case by case basis, some US providers have been granted reimbursements of \$150 to \$200 per procedure.

MC5-A Market Estimate

Due to limited clinician experience, the market for the MC5-A is not yet well characterized. But market estimates based on available data suggest substantial potential demand for CTTC's pain therapy device. Patient population estimates by the Neuropathic Pain Network, MediZine and the American Cancer Society point to a combined US neuropathic and oncologic pain patient population of almost 8 million; we would estimate the worldwide figure at twice that number. Discounting the estimated global total by 25% to account for an overlap between neuropathic and oncologic pain patients, the estimated market would be around 12 million worldwide.

We estimate that around 20% of that market, roughly 2.4 million patients, would be unresponsive to existing pharmaceutical and device therapies (i.e., the target market for the MC5-A). Treatment protocols published so far show once-daily treatments for around 10 days, with treatments repeated as needed to sustain pain relief. With

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four courses of treatment per year, an MC5-A patient would be treated 40 times. With each treatment requiring 30 to 45 minutes, a fully utilized MC5-A would experience throughput of around 100 patients per year.

At that rate, treating 2.4 million patients a year would require almost 24,000 MC5-As, an installed base, valued at average (of US and overseas sales) net selling prices, representing \$465 million in revenue to CTTC. If the company penetrated that installed base estimate at the rate of only 2% per year, or less than 500 units annually, CTTC would earn roughly \$9.5 million in revenue, more than enough to drive strong profitability.

Projections

Operations For 2011 we project a loss of \$3.1 million or (\$0.21) per share, including a 4Q11 \$750,000 litigation award expense, on product sales of \$4.2 million. While the arbitration award is being disputed by CTTC, we are, for the time being, showing that the award will be upheld. Our 2011 forecast reflects the 4Q11 issuance of 1.5 million common shares.

Our 2011 revenue forecast is based mainly on the sale of 119 MC5-As, including the 53 sold to LEI in the first quarter. An estimated 75 of the MC5-As sold during the year will be shipped overseas and sold through distributors at prices starting at \$23,000. The US unit selling price, currently averaging around \$50,000 will be raised gradually throughout our forecast period. The unit cost (of sales) for an MC5-A is around \$12,000. On US sales, CTTC pays a 10% commission. Our 2011 G&A expense projections include around \$400,000 in legal expenses (separate from the arbitration award) relating to a dispute with a former CEO who was dismissed in September 2010.

For 2012, we project a loss of \$922,000 or (\$0.06) per share, on product sales of \$4.9 million. The improvement in profitability should be based on volume gains, gradually rising selling prices, a sales mix tilt toward higher margin US sales, and narrower operating expense margins. Our 2012 revenue forecast is based on the sale of more than 200 MC5-As, roughly half of which will be sold overseas.

Due to increased selling prices and a tilt in the 2012 sales mix toward higher-margin US sales, the gross margin should widen to 71.3% from 58.6%. Gross margin gains and a decrease in the operating expense margin stemming from a reduction in G&A expense (we project no large legal fees in 2012) should enable CTTC to cut its operating loss to \$922,000 vs. an operating loss of \$2.3 million in 2011.

Finances We project 2011 cash burn of \$2.9 million – including payment a \$750,000 arbitration award to a former CEO - partly offset by a \$518,000 reduction in working capital due to increases in payables that will partly offset increases in receivables and inventory. Proceeds of \$3 million from the 4Q11 sale of common stock should cover cash of \$2.4 million used in operations and increase cash by an estimated \$557,000 to \$1.4 million at the end of 2011.

Our balance sheet forecasts are based in part on DSO of 60. Under the supply agreement with the MC5-A contract manufacturer, CTTC will pay down the amount due to the vendor as each MC5-A is sold. Our inventory projections for 2012 reflect the replenishment of inventory at the rate of 25 to 30 units per quarter.

In 2012, CTTC will use cash of almost \$1 million in operations – cash burn of \$785,000 and an increase of \$167,000 in working capital due to reductions payables to the company's MC5-A supplier and an increase in receivables, partly offset by a decrease in inventory. Cash will drop by almost \$1 million to \$394,000 at the end of 2012.

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2011 Third Quarter and Nine-Month Results

Operations In 3Q11, CTTC lost \$538,000, or (\$0.04) per share, on revenue of \$1.2 million. CTTC sold 22 MC5-A systems during the quarter (vs. our projected 20), of which 2 were placed overseas. All but two of the systems sold in the quarter were to US accounts, including US military facilities. Product sales for 3Q11 totaled \$1.2 million, up sharply from the October 31, 2010 quarter (closest corresponding year-earlier period), during two MC5-As were sold in the US.

Starting in 2011 sales, cost of sales, inventory and receivables accounting are stated in conventional terms, as are our models. In 2010 CTTC's sales to foreign distributors were generally reflected in the cost of sales, as revenue was shown net of the cost of the equipment, which is produced by a Korea-based manufacturing partner that drop ships the equipment to distributors. CTTC's inventory formerly reflected only units stocked to support US sales. MC5-As sold to distributors were not taken into the company's inventory.

	Quarters Ending			Nine Months ending	
	Sep. 30		Oct 30	Sep. 30	Oct. 31
	2011A	2011E	2010	2011	2010
Product sales	1,198	820	108	3,337	1,674
Cost of product sales	505	240	18	1,484	525
Gross profit	693	580	90	1,853	1,149
Other revenue					
Gain on sale of rental assets				35	
Retained royalties	4	5	7	20	38
Total other revenue	4	5	7	55	38
Operating expenses					
Selling expenses	219	72	56	416	287
Personel/direct expenses	431	270	504	1,204	1,498
G&A	601	800	633	2,115	1,703
Total	1,251	1,142	1,194	3,735	3,489
Operating income (loss)	(554)	(485)	(1,097)	(1,827)	(2,302)
Other income (expense)					
Interest expense	9		2	29	5
Other income	9	2	4	31	5
Unrealized loss on derivatives	(15)			17	
Litigation award					
Net income (loss)	(538)	(483)	(1,094)	(1,843)	(2,302)
Average shares outstanding	14,255	14,000	13,825	13,995	12,233
Earnings (loss) per share	(0.04)	(0.04)	(0.08)	(0.13)	(0.19)
Margin Analysis					
Gross margin on product sales	57.8%	70.7%	83.2%	55.5%	68.6%
Selling	18.3%	8.8%	52.3%	12.5%	17.1%
Personel/direct expenses	36.0%	32.9%	467.0%	36.1%	89.5%
G&A	50.2%	97.6%	586.3%	63.4%	101.8%

Source: Company reports and Taglich Brothers estimates

In 3Q11, the gross profit was up due to higher sales but the margin was narrower due to differences in sales mix. Selling prices on MC5-s vary according to sales agreements with different customers, causing quarter-to-quarter variations in gross margins.

Operating expenses were up 5% to \$1.3 million due mainly to a fourfold increase in selling expenses to \$219,000. Selling expenses increased due mainly to an increase in commissions on MC5-A sales. Personnel expenses were down 15% to \$431,000 due to reductions in salaries and benefits. CTTC's staff was reduced to seven from 10 employees. G&A expenses decreased 5% to \$601,000 due mainly to reductions investor relations expenses, rent and legal expenses, offset partly by increases in legal fees relating to the former CEO contesting his termination, and shipping, postage and delivery costs.

Due to the increase in revenue and gross profit, and a slight reduction in expenses, CTTC's net loss was reduced by half to \$538,000, or (\$0.04) a share.

For the first nine months of 2011, the company lost (\$0.13) a share on revenue of \$3.3 million. In the nine months ending October, 2010 CTTC lost (\$0.19) a share on revenue of \$1.7 million. While the nine-month gross profit was up sharply due to the increase in sales, the margin narrowed from 68.6% to 55.5% due to pricing and

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sales mix factors. Nine-month operating expenses increased 7% to \$3.7 million due mainly to a 24% increase in G&A to \$2.1 million. G&A expenses increased 24% to \$2.1 million due mainly to legal fees relating to a contesting his termination the former CEO challenging his termination, and other legal expenses. The increase in legal expenses was partly offset by reductions in rent, consulting fees and investor relations expenses. Personnel/direct expenses dropped by 20% to \$1.2 million due to lower compensation and recruitment expenses, partly offset by increases in government consulting fees. Selling expenses increased 45% to \$416,000 due mainly to an increases in sales commissions.

Due to the increase in revenue and gross profit the nine-month loss dropped 20% to \$1.8 million; the loss per share decreased 30% to (\$0.13).

Finances In 3Q11, CTTC's cash burn of \$481,000 was partly offset by a \$112,000 reduction in working capital. Working capital decreased due to an increase in payables, largely offset by increases in receivables and inventory. Cash of \$370,000 used in operations was partly offset by \$150,000 in proceeds from a note but cash dropped by \$220,000 to \$35,000 at the end of 3Q11.

In the first nine months of 2011 cash burn of \$1.8 million was partly offset by a \$1 million decrease in working capital stemming from an increase in payables, partly offset by increases in inventory and receivables. Cash of \$709,000 used in operations and capital expenditures were partly offset by proceeds from a note and the exercise of options. For the nine-month period, cash dropped by \$522,000 to \$35,000.

The MC5-A Pain Therapy Device

In 2007 CTTC acquired worldwide distribution rights to a non-invasive pain therapy device known variously as the ST5, the MC5-A Calmare therapy device and the Calmare Pain Therapy medical device. The device treats chronic neuropathic pain and pain caused by cancer or cancer therapies by "scrambling" pain messages transmitted to the brain so that pain signals are masked. Developed in Italy, it is CE marked and was granted 510(K) approval by the FDA in 2009 as a transcutaneous electrical modulation pain reprocessor for the management of pain in patients not sufficiently responsive to drugs and other therapies. With its broad regulatory clearance, the MC5-A can be sold in most global markets.

The MC5-A electrostimulation device, shown at right mounted on a cart, has five separate channels, dial selectors with five corresponding channel meters, indicator lights and an LCD display on which the physician can monitor its operation. Mild electrical impulses are transmitted through lead wires from each independently controlled channel to ECG-type electrodes attached to the patient near the site of the pain.

The intensity of the electric stimulus used to modulate and transmit the system's non-pain information will vary from patient to patient and is adjusted so that the maximum intensity possible can be sustained without pain or discomfort. Treatment proceeds only when the patient's pain disappears immediately and completely, indicating that the proper nerve pathway has been correctly identified. If the clinician is unable to identify those pathways, a relapse of pain during treatment is likely. Clinicians agree that proper electrode placement is critical to the success of the treatment.

The MC5-A is manufactured for CTTC by GEOMC Co., Ltd. of Korea.



Source: Competitive Technologies

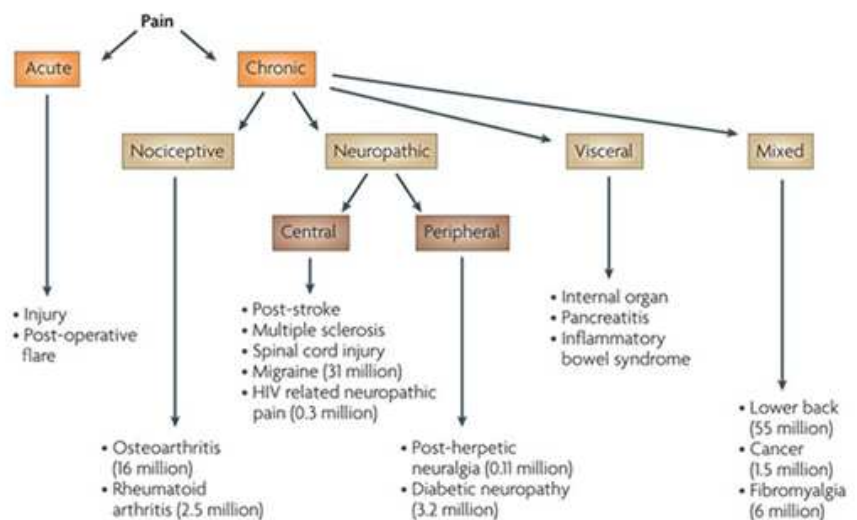
The Targeted Patient Population

The chart below, compiled by Nature Reviews (August 2010) using data from the CDC, National Center for Health Statistics, and a number of medical foundations, shows the magnitude and breakdown of the potential market for pain management treatments.

Neuropathic Pain The Neuropathic Pain Network estimates that 1.5% of the US population – 4.6 million people – suffers from neuropathic pain. Research firm WWMR estimates that by 2018, there will be six million people in the US suffering from major neuropathic pain conditions. Neuropathic pain is a complex, chronic pain state that is usually accompanied by tissue injury and is frequently characterized by numbness, a shooting, stinging or burning pain, and a tingling or shock-like sensation. With neuropathic pain, the nerve fibers themselves may be damaged, dysfunctional or injured, sending incorrect signals to other pain centers. The impact of nerve fiber injury includes a change in nerve function both at the site of injury and areas around the injury.

Neuropathic pain diagnoses can be difficult to confirm, as there are no objective means of determining pain source, location, duration and intensity. But widely recognized causes include alcoholism, amputation, fibromyalgia, back, leg, and hip problems, chemotherapy, diabetes, facial nerve problems (trigeminal neuralgia), HIV infection or AIDS, multiple sclerosis, shingles and spine surgery. Neuropathic pain often responds poorly to standard pain treatments and may become more intense over time, potentially causing serious disability.

Oncologic Pain MediZine's Healthcommunities.com points to studies showing that 30% of all cancer patients experience pain, with severity increasing as the disease progresses. An estimated 90% of patients with advanced cancer suffer severe pain. The American Cancer Society reported US cancer prevalence at 11 million in 2006. Extrapolating from the number of 2009 US cancer deaths, we surmise that of those 11 million, at least 565,000 are advanced or late-stage cases, of whom 510,000 are suffering severe pain.



Cancer-related pain stems from several immediate causes: obstructed blood vessels causing poor circulation, bone fracture from metastasis, infection, inflammation, psychological or emotional problems, side effects from cancer treatments (e.g., chemotherapy, radiation) and tumor pressure on a nerve. The most common cancer pain develops as tumors metastasize to the bone. The second most common is due to tumor infiltration of nerves and major hollow organs in the body cavity. The third most common cancer pain stems from cancer treatments – chemotherapy, radiation or surgery.

Most cancer patients experience both somatic and visceral pain. Only about 15% to 20% of cancer patients report neuropathic pain. The different types of pain respond differently to the various pain management therapies. Somatic and visceral pain are both easier to manage than neuropathic pain. Somatic pain is caused by the activation of pain receptors either on the body's surface or in deep (musculoskeletal) tissues. Common causes of somatic cancer pain include metastasis in the bone (an example of deep somatic pain) and postsurgical pain from a surgical incision (an example of surface pain). Deep somatic pain is usually described as dull or aching but localized. Surface somatic pain is usually sharper and may have a burning or pricking quality.

Visceral pain refers to the internal areas of the body that are enclosed within a cavity. Visceral pain is caused by activation of pain receptors resulting from infiltration, compression, extension, or stretching of the thoracic (chest), abdominal, or pelvic viscera. Common causes of visceral pain include pancreatic cancer and metastases in the abdomen. Visceral pain is not well localized and is usually described as pressure-like, deep squeezing.

Cancer-related pain is either acute or chronic, each type being either tumor- or therapy-related. Acute pain stemming from tumor growth is best relieved by removing or reducing the tumor surgically or with radiation. The duration and intensity of acute pain caused by cancer therapy is predictable, as it ends when the treatment is over. Chronic pain caused by tumor growth worsens as the disease progresses. Efforts to reduce chronic pain include removal or reduction of the tumor, analgesic drugs, neurosurgical anesthetic blocks and behavioral management. Examples of chronic cancer pain associated with therapy are pain after mastectomies or limb amputation. An increasing percentage of cancer patients suffer from chronic pain; an estimated one fourth of chronic cancer pain patients are referred to pain clinics.

While these figures point to vast market potential, the immediate targets within these patient populations are arguably those who have attempted pain management but have been responsive to the pharmaceutical and device therapies already on the market.

A Wide Spectrum of Pain Treatments

A January 2011 report by research firm Global Industry Analysts projected worldwide pain management market of \$60 billion by 2015, up from BCC Research's estimated \$31 billion in 2007. Of that \$31 billion, an estimated \$29 billion consisted of pharmaceutical; medical devices accounted for the rest.

The MCA-5 aims to treat the neuropathic and oncologic pain patient populations. These patient populations overlap to a degree but estimates of each run into the millions. For neuropathic pain, analgesics are always the first course of action, but generally neuropathic pain does not respond well to analgesic drug therapy. Pharmaceuticals treatments can range from non-prescription acetaminophen and ibuprofen to prescription NSAIDs, opiates, anticonvulsants and antidepressants. When pharmaceuticals are ineffective, pain specialists may attempt invasive or implantable device therapies to effectively manage the pain. Electrical stimulation of the nerves involved in neuropathic pain and implantable drug infusion pumps can offer significantly relief.

Analgesic drug therapy is the main pain relief method used for most cancer patients. Around 70% to 90% of a cancer patient's pain can be controlled using a combination of non-opiates, opiates, and adjuvant drugs (anticonvulsants and antidepressants), usually following the simple rules of the WHO three-step analgesic ladder: non-opiates for mild to moderate pain, ranging up to a combination of opiates, non-opiates and adjuvants for moderate to severe pain.

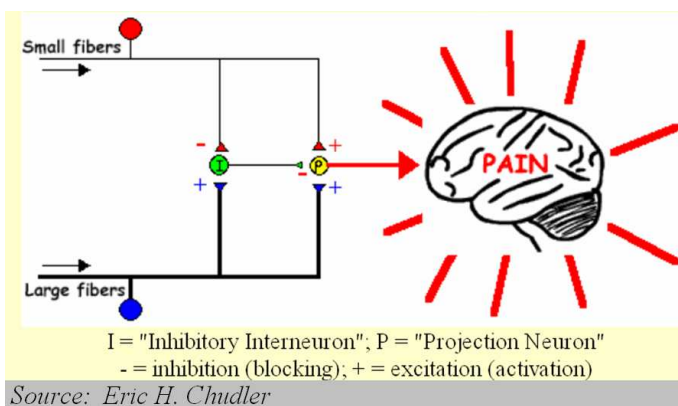
In 10% to 20% of cancer pain cases, anesthetics and neurosurgical procedures are used to manage somatic and visceral pain, both of which tend to be localized and well defined. Neuropathic pain does not lend itself to these treatments. Anesthetics are substances that block nerves so that they can no longer transmit pain signals. The neurosurgical control of pain entails blocking pain pathways by cutting bundles of nerves in the spinal cord or cutting specific nerves that are close to the spinal cord to interrupt the pain pathway. Neurosurgical management of cancer pain is generally limited to patients with limited life expectancies.

Cancer pain management procedures include neurostimulation, specifically transcutaneous electrical nerve stimulation (TENS), which reduces pain by electrically stimulating nerve fibers that interfere with pain signals and by stimulating the production of pain-relieving endorphins. Acupuncture, either traditional or more recent variants such as laser acupuncture and percutaneous electrical nerve stimulation (PENS), is also used for the relief of cancer pain.

Less well known procedures include diathermy, the use of a high-frequency current to generate heat and stimulate blood flow in a specific part of the body, and cryotherapy, which dulls pain with cold, e.g. ice packs.

Where Does the MC5-A Fit In?

Electrical stimulation systems, also known as neurostimulation devices, range from Medtronic's PrimeAdvanced® and Restore™ implantables to the ubiquitous TENS system. Medtronic's neurostimulation devices treat chronic back pain, neuropathic pain, and pain in the limbs and extremities by directing mild electrical impulses from an implanted generator through electrodes positioned near the spinal cord. These impulses relieve the pain by overriding it with a tingling sensation.

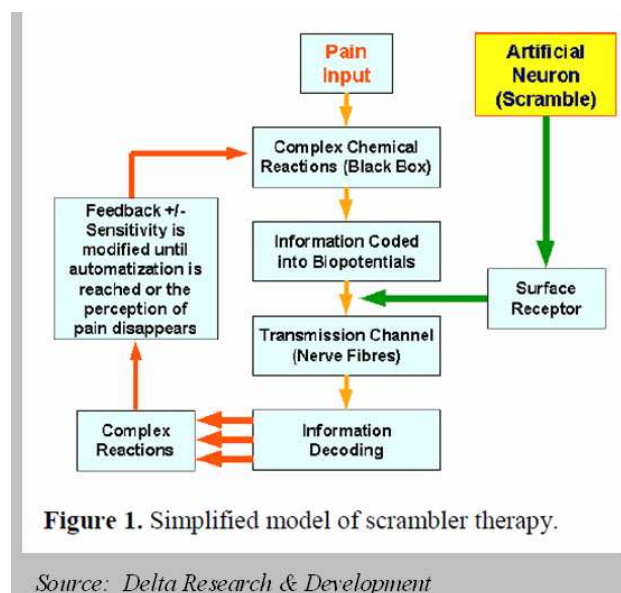


TENS therapy is delivered through a small, external portable battery-powered generator from which electrical impulses are coursed through electrodes placed on the skin, either directly over the painful area or at certain points along the nerve pathway. Among the electrical stimulation devices on the market, TENS is arguably the most closely related to the MC5-A.

The mechanism of action of TENS is explained by the gate-control theory (Melzack and Wall, 1965), illustrated at the right, as follows: in the absence of stimuli, both large and small nerve fibers are quiet and the inhibitory interneuron (I) blocks the signal in the projection neuron (P) that connects to the brain. The "gate is closed", so there is no pain sensed.

With non-painful stimuli, mainly the large nerve fibers are activated. Activation of the large nerve fibers also activates the projection neuron (P), but it also activates the inhibitory interneuron (I) which then blocks the signal in the projection neuron (P) that connects to the brain. The gate remains closed so there is no pain sensed.

With pain stimulation, small nerve fibers become active, activating the projection neurons (P) and blocking the inhibitory interneuron (I). Because activity of the inhibitory interneuron is blocked, it cannot block the output of the projection neuron that connects with the brain. So the gate is "open", and the brain senses pain. TENS aims to stimulate the large diameter nerve fibers, closing the gate and reducing pain.



The sensation produced by the electrical stimulation appears to "override" the pain messages and may stimulate the body to produce its own natural morphine-like substance, which minimizes pain.

Since it was developed more than 30 years ago TENS (it was the predicate device on which the MCA-5's 510(K) clearance was based), has been used to treat almost every type of pain, from mild persistent problems such as sore muscles to acute postoperative pain. Its most common use, however, is in the treatment of chronic low-back pain, an application in which the American Academy of Neurology now says TENS is ineffective. Whether TENS suppresses or overrides pain signals, stimulates production of natural pain relieving chemicals, or is merely a placebo effect, it has provided pain relieve in many cases. Despite questionable effectiveness, TENS is widely

used for pain relief because of its benign side effects profile. TENS is non-addictive, non-sedative, and can be used indefinitely without the problems associated with prolonged use of some pain medications.

Although the MC5-A's electrical impulses are also delivered transcutaneously, its developer, Giuseppe Marineo, differentiates its mechanism of action (figure at right) from that of TENS. In his view, the pain system processes a high level of information content. As receptors respond to stimuli, they convert chemical, physical or mechanical events into specific pain information. The nervous system responds to painful stimuli with a range of reactions that aim to re-establish the stability and equilibrium that have been disrupted. In most cases, this equilibrium can be rapidly restored. But due to the severity of the underlying cause of the pain or damage to the nerve, equilibrium cannot always be regained. Complex reactions may modify the original information that signals the pain, initiating a repetitive process that, in the case of chronic pain, particularly neuropathic and visceral pain, makes pain treatments ineffective.

These observations highlight the controlling influence of information on the nervous system's characterization of pain and its efforts to regulate it. Marineo believes that the chemical reactions triggered by the nervous system in response to pain stimuli can be manipulated. Knowledge of the role of the chemical molecules play is incomplete but that role is illustrated by a "black box" model (at right) in which the input and output are known, but the internal translation process that takes place within the box is not.

Marineo's approach to pain management entails replacing the "pain" information with artificial "no pain" information in the form of an artificial neuron, delivered by an electrical impulse, which behaves as a "Pain Scrambler". This system is able to interfere with pain signal transmission by inserting a "no-pain" signal in the nerve fibers that mask the original pain information.

Results So Far Are Limited but Increasing Use Should Widen Acceptance

A 2010 study by Smith et al (Massey Cancer Center of Virginia Commonwealth University) evaluated the MC5-A as a treatment for 16 cases of chemotherapy-induced peripheral neuropathy (CIPN). The treatment program consisted of one-hour sessions administered daily over 10 working days. The primary endpoint of the study, a 20% drop in numeric pain scores after day 10, was achieved in 15 of the 16 patients. The primary endpoint of CIPN pain score fell by 59% over the 10-day course of treatment. Adjusting for the correlations and the variability between patients and daily scores, there was an overall 64% reduction in pain. A daily treatment benefit was seen with a significant difference between the pre and post daily scores. Four patients had their CIPN reduced to zero. Some responses have been durable without maintenance, and some patients had return of normal sensation and motor function. The study concluded that treatment with the MC5-A appears to dramatically reduce pain, with no toxicity, in CIPN patients who are unresponsive to pain medication.

In October 2010 researchers at Virginia Commonwealth University Massey Cancer Center started recruiting patients into a new Phase II clinical study to evaluate the efficacy of the MC5-A medical device for the treatment of cancer pain. In addition to addressing chronic chemotherapy-induced peripheral neuropathy (CIPN) pain and numbness, this trial will also evaluate the device's ability to treat post mastectomy pain, post surgical pain, post herpetic neuropathy, post radiation pain and other chronic pain.

Other less formal evaluations are ongoing. At a May 2010 symposium, three academic US clinicians discussed the use of the MC5-A in their respective practices, which consisted of academic pain medicine, cancer and ophthalmology centers. Information presented was largely anecdotal and covered relatively few patients. On the whole, the academic clinicians were in agreement as to the apparent effectiveness of the MC5-A treatment in reducing pain and restoring functionality in certain cases but also cited the need for collecting more evidence through further study, gaining a better understanding of the MC5-A's mechanism of action and developing experience-based treatment protocols.

In what was arguably the most interesting presentation for its balance and the number of patients and variety of pain conditions treated, an academic pain medicine clinician noted that eight of 14 patients treated with the MC5-

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A responded to the treatment, at least for a short time. The most responsive patients were myofascial pain cases. Patients suffering from failed back surgery syndrome experienced reduction in leg pain but not in axial (low) back pain. Overall, this group of 14 patients did not reduce their pain medication and changes in their activity were minimal.

Risks

In our view, these are the principal risks underlying the stock:

Going Concern Issues During the past several years, revenue has been earned from several services or products, none of which have provided a lasting or substantial income stream. If CTTC fails to achieve substantive MC5-A sales volume, the company may not be able to continue in business.

Liquidity The company's inventory is heavy relative to projected sales. Heavy orders were placed a few months ago as a precaution against disruptions in supply due to instability stemming from tension between South Korea and North Korea. If the inventory remains unsold for an abnormally long period, the tie-up of funds would constrict cash flow.

Concentration of Revenue Patent expirations since FY2007 have significantly reduced royalties, the company's principal revenue source. CTTC is now largely dependent on the commercial success of the MC5-A, which has to overcome significant acceptance hurdles before it can make a substantive revenue contribution.

Acceptance Hurdles While electrical neurostimulation pain therapy is in widespread use, the MC5-A is new to the market. It may have to overcome significant acceptance hurdles ranging from "me too" impressions to skepticism regarding its clinical utility. As CTTC does not have an established reputation as a medical device manufacturer or a technology innovator, the MC5-A may have difficulty attracting attention, particularly since the company does not yet have an established field force.

Potential Dilution The sale of common shares to raise capital would dilute the ownership interests of current shareholders.

Microcap Concerns Shares of CTTC have risks common to the stocks of other microcap (which we define as market capitalizations of \$250 million or less) companies. These risks often underlie stock price discounts from the valuations of larger-capitalization stocks. Liquidity risk, typically caused by small trading floats and very low trading volume, can lead to large spreads and high volatility in stock price. The company has approximately 12.6 million shares in the float. On average, approximately 11,000 shares are traded daily.

Miscellaneous Risks The company's financial results and equity values are subject to other risks and uncertainties known and unknown, including but not limited to competition, operations, financial markets, regulatory risk, and/or other events. These risks may cause actual results to differ from expected results.

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Annual Income Statements
(\$ 000)
FY2009 –2012E

	FY2009A*	FY2010A*	Transitional 2010 (5 mos)	2011E	2012E
Product sales	8	1,853	164	4,160	4,850
Cost of product sales	1	516	28	1,724	1,392
Gross profit	8	1,337	136	2,436	3,458
Other revenue					
Gain on sale of rental assets		81			
Retained royalties	261	68	12	25	20
Investment income	7				
Total other revenue	268	150	12	25	20
Operating expenses					
Selling expenses				494	450
Personel/direct expenses	2,024	2,061	660	1,554	1,400
G&A	2,199	2,134	1,169	2,715	2,550
Restructuring expenses			326		
Bad debt expense			409		
Litigation award					
Patent enforcement (net)	2				
Total	4,225	4,195	2,564	4,763	4,400
Operating income (loss)	(3,948)	(2,708)	(2,416)	(2,301)	(922)
Other income/expenses					
Interest expense	3		4	29	38
Other income	71	7	10	33	8
Unrealized loss on derivatives				17	
Insurance recovery	(400)	8			
Litigation award				750	
Net loss	(3,480)	(2,709)	(2,410)	(3,065)	(952)
Preferred stock dividend			(132)		
Net loss - common shareholders	(3,480)		(2,542)	(3,065)	(952)
Average shares outstanding	8,740	10,832	13,825	14,421	16,480
Earnings (loss) per share	(0.40)	(0.25)	(0.18)	(0.21)	(0.06)
Margin Analysis					
Gross margin on product sales	92.1%	72.2%	83.1%	58.6%	71.3%
Selling	NM	NM	NM	11.9%	9.3%
Personel/direct expenses	NM	111.2%	402.6%	37.4%	28.9%
G&A	NM	115.2%	712.6%	65.2%	52.6%

*Fiscal years ended July. Transitional period is August to December 2010. 2011E and 2012E reflect new fiscal (December) closing.

Source: Company reports and Taglich Brothers estimates

Quarterly Income Statements
(\$ Thousands)
2010 (Transitional) - 2012E

	Transitional												
	10-10A (3 months)	12-10A (2 months)	Aug-Dec '10E	1Q11A	2Q11A	3Q11A	4Q11E	2011E	1Q12E	2Q12E	3Q12E	4Q12E	2012E
Product sales	108	56	164	1,827	311	1,198	824	4,160	1,004	1,116	1,365	1,365	4,850
Cost of product sales	18	9	28	857	122	505	240	1,724	288	312	396	396	1,392
Gross profit	90	47	136	970	189	693	584	2,436	716	804	969	969	3,458
Other revenue													
Gain on sale of rental assets				35									
Retained royalties	7	4	12	11	5	4	5	25	5	5	5	5	20
Total other revenue	7	4	12	45	5	4	5	25	5	5	5	5	20
Operating expenses													
Selling expenses				101	96	219	78	494	94	108	124	124	450
Personel/direct expenses	476	184	660	367	406	431	350	1,554	350	350	350	350	1,400
G&A	718	451	1,169	517	997	601	600	2,715	625	625	650	650	2,550
Total	1,194	1,370	2,564	985	1,500	1,251	1,028	4,763	1,069	1,083	1,124	1,124	4,400
Operating income (loss)	(1,097)	(1,319)	(2,416)	31	(1,305)	(554)	(439)	(2,301)	(348)	(274)	(150)	(150)	(922)
Other income (expense)													
Interest expense	2	2	4	10	10	9		29					38
Other income	4	8	10	11	10	9	2	33	2	2	2	2	8
Unrealized loss on derivatives				3	30	(15)		17					
Litigation award							750	750					
Net income (loss)	(1,098)	(1,321)	(2,410)	29	(1,335)	(538)	(1,187)	(3,065)	(346)	(272)	(148)	(148)	(952)
Average shares outstanding	13,925	13,825	13,875	13,826	13,747	14,255	15,855	14,421	15,955	16,055	16,905	17,005	16,480
Earnings (loss) per common share	(0.08)	(0.11)	(0.18)	0.00	(0.10)	(0.04)	(0.07)	(0.21)	(0.02)	(0.02)	(0.01)	(0.01)	(0.06)
Margin Analysis													
Gross margin on product sales	83.2%	83.0%	83.1%	53.1%	60.8%	57.8%	70.9%	58.6%	71.3%	72.0%	71.0%	71.0%	71.3%
Selling				5.5%	31.0%	18.3%	9.4%	11.9%	9.4%	9.6%	9.1%	9.1%	9.3%
Personel/direct expenses	441.1%	328.2%	402.6%	20.1%	130.6%	36.0%	42.5%	37.4%	34.9%	31.4%	25.6%	25.6%	28.9%
G&A	664.5%	805.4%	712.6%	28.3%	320.3%	50.2%	72.8%	65.2%	62.3%	56.0%	47.6%	47.6%	52.6%
Operating income	NM	NM	NM	1.7%	NM	NM	NM	NM	NM	NM	(11.0%)	(11.0%)	(19.0%)
Net income	NM	NM	NM	1.6%	NM	NM	NM	NM	NM	NM	(10.9%)	(10.9%)	(19.6%)

Source: Company reports and Taglich Brothers estimates

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Annual Balance Sheets
(\$ 000)
FY2009 –2012E

	FY2008A	FY2009A	Five mos end Dec 31, '10	3Q11A	2011E	2012E
ASSETS						
Current assets						
Cash + equivalents	2,237	752	557	35	1,356	394
Restricted cash			750	750		
Due from factor				465	500	600
Accts receivable	120	200	25	361	693	808
Inventory			1,730	4,230	3,990	2,826
Prepayments & other	318	207	78	73	71	66
Total	2,675	1,158	3,140	5,914	6,611	4,694
Fixed assets (net)	263	203	41	29	39	10
Deferred financing costs	40					
Other assets	133	40	15	17		
TOTAL ASSETS	3,111	1,401	3,196	5,960	6,650	4,704
LIABILITIES AND EQUITY						
Current liabilities						
Accts pay	680	353	148	1,009	397	367
Accts pay - GEOMC			1,106	4,081	3,841	2,677
Accruals & other	759	682	407	686	357	330
Note payable				150	150	150
Derivative liability			132	68	135	135
Preferred stock liability			750	375	375	375
Total	1,439	1,035	2,544	6,369	5,256	4,034
Deferred rent	79	81				
Preferred stock				61	61	61
Common shareholders' equity	1,593	285	651	(470)	1,334	607
TOTAL LIABILITIES AND EQUITY	3,111	1,401	3,196	5,960	6,649	4,704

Source: Company reports & Taglich Brothers estimates

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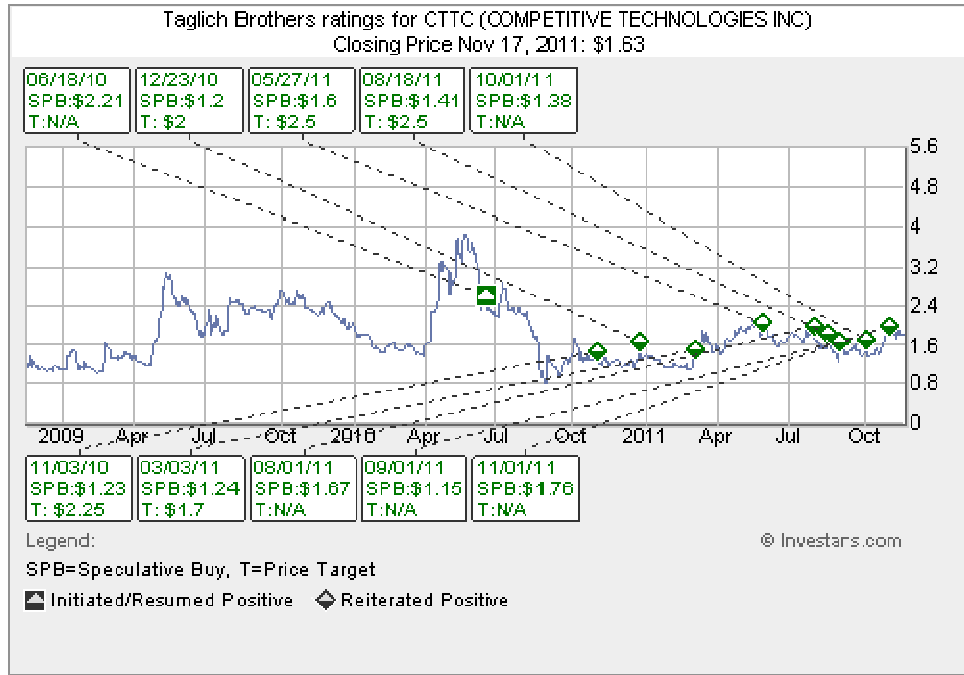
Annual Cash Flow Statements
(\$ 000)
FY2009 –2012E

	FY2009A	FY2010A	5 mos end Dec '10	3Q11A	2011E	2012E
				quarter only		
Operating activities						
Net loss	(3,480)	(2,709)	(2,408)	(538)	(3,030)	(914)
Security deposit used as rent	40					
Reserve for disputed receivables						
Write off of prepaid royalties						
Depreciation/ amortization	61	55	25	4	30	49
Deferred rent	3	(15)	(66)			
Stock based compensation = options				68	68	
Stock based compensation	244	172	(8)		28	40
Accrued directors' stock compensation		12				
Accrued stock contribution	(55)	(81)			18	40
Bad debt expense			409			
Gain on sale of rental assets			112		(35)	
Unrealized loss on derivative				(15)	17	
Changes in working capital	(305)	(1,097)	359	112	518	(167)
Net cash from operations	(3,492)	(3,662)	(1,577)	(370)	(2,386)	(952)
Investing activities						
Purchase of rental assets						
Capital expenditures	(1)	(39)	(13)		(17)	(10)
Proceeds from sale of securities						
Proceeds from sale of rental assets		104			44	
Increase in security deposits					(2)	
Investment in non-public company						
Net cash from investing	(1)	65	(13)		24	(10)
Financing activities						
Proceeds - exercise of options/warrants	25				10	
Proceeds - sale of stock	1,989	3,941	505		3,000	
Proceeds - issuance of note			400	150	200	
Payment of note					(50)	
Proceeds - issuance of preferred stock			350			
Dividends						
Financing costs		(140)				
Deferred finance charges	(6)	(49)				
Net cash from financing	2,008	3,752	1,255	150	3,160	
Net change in cash	(1,485)	155	(335)	(220)	799	(962)
Cash - beginning	2,237	752	907	255	557	1,356
Cash - ending	752	907	572	35	1,356	394

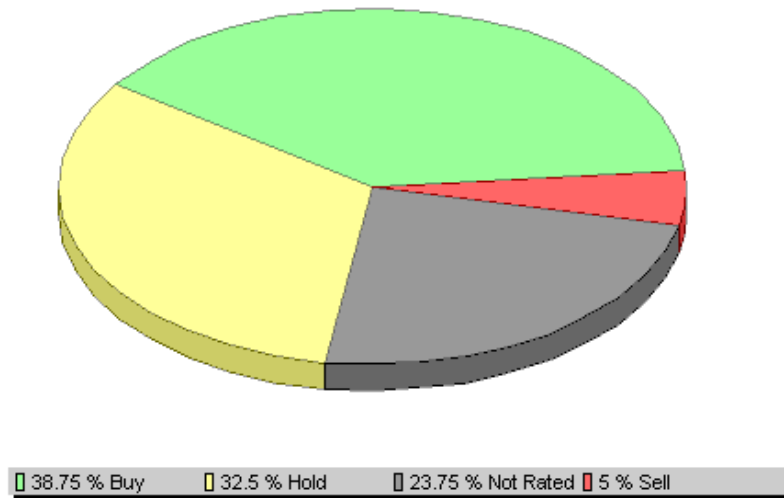
Source: Company reports and Taglich Brothers estimates

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Price Chart



Taglich Brothers Current Ratings Distribution



Investment Banking Services for Companies Covered in the Past 12 Months

<u>Rating</u>	<u>#</u>	<u>%</u>
Buy		
Hold	N	O N E
Sell		
Not Rated		

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I, Juan Noble, the research analyst of this report, hereby certify that the views expressed in this report accurately reflect my personal views about the subject securities and issuers; and that no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this report.

Public companies mentioned in this report

Medtronic (NYSE: MDT)

Meaning of Ratings

Buy - the company is undervalued relative to its market and peers. We believe its risk reward ratio strongly advocates purchase of the stock relative to other stocks in the marketplace. Remember, with all equities there is always downside risk.

Speculative Buy - We believe that the long run prospects of the company are positive. We believe its risk reward ratio advocates purchase of the stock. We feel the investment risk is higher than our typical “buy” recommendation. In the short run, the stock may be subject to high volatility and continue to trade at a discount to its market.

Neutral - We will remain neutral pending certain developments.

Underperform - We believe that the company may be fairly valued based on its current status. Upside potential is limited relative to investment risk.

Sell - We believe that the company is significantly overvalued based on its current status. The future of the company's operations may be questionable and there is an extreme level of investment risk relative to reward.

Dropping Coverage – we have discontinued research coverage of the company due to termination of research services, non-payment for such services, or departure of the analyst.

Some notable Risks within the Microcap Market

Stocks in the Microcap segment of the market have many risks that are not as prevalent in Large-cap, Blue Chips or even Small-cap stocks. Often it is these risks that cause Microcap stocks to trade at discounts to their peers. The most common of these risks is liquidity risk, which is typically caused by small trading floats and very low trading volume which can lead to large spreads and high volatility in stock price. In addition, Microcaps tend to have significant company specific risks that contribute to lower valuations. Investors need to be aware of the higher probability of financial default and higher degree of financial distress inherent in the microcap segment of the market.

From time to time our analysts may choose to withhold or suspend a rating on a company. We continue to publish informational reports on such companies; however, they have no ratings or price targets. In general, we will not rate any company that has too much business or financial uncertainty for our analysts to form an investment conclusion, or that is currently in the process of being acquired.