Recycled Engineered Composite Lumber: Foresight and Preparation Meet Opportunity as the Nation and the World Focus on Infrastructure and the Environment

Overview: Axion International, Inc. (AXIH) is a leading structural solution provider of cost-effective alternative infrastructure and building products. The Company's "green" proprietary technologies allow for the development and manufacture of innovative structural products made from 100% recycled consumer and industrial plastics. AXIH up-cycled products are an economic and sustainable alternative to traditional building materials such as wood, steel or concrete. Developed in collaboration with scientists at Rutgers University, Axion's patented technologies allow for products that are extremely strong, durable, flexible in design, and low maintenance.

Opportunity: Although the products have a wide range of potential applications, there is immediate and significant opportunity for AXIH in railroad crossties as well as in bridge replacement, particularly among the nation's 210 military installations. As an example of the magnitude of the opportunity on military installations, Ft. Bragg, where AXIH has been awarded a contract of approximately $800,000 for the replacement of two bridges, is home to nearly 100 bridges originally constructed with weight capacity that has become inadequate to support today's tanks and other heavy military vehicles. Based on conversations with the engineers authorizing the work at Ft. Bragg, and the inadequate weight capacity of the bridges, AXIH anticipates there may be an opportunity to replace all of these bridges over the next six years. This bridge opportunity at Ft. Bragg alone represents as much as $40 million in potential gross revenue to AXIH with more profitable operating margins relative to rail tie production. AXIH estimates the domestic rail tie opportunity is $1 billion annually. The bridge opportunity is substantially larger even in normal economic times, with $140+ billion spent annually on highway infrastructure and a Department of Defense Budget of over $500 billion. However, with the passage of the American Recovery and Reinvestment Act, the range and scale of opportunity for AXIH products has expanded greatly. In ongoing business development discussions and through strategic relationships with partners such as Ecological Development, founded by former New York State Governor George Pataki, AXIH is actively tracking these opportunities.

Outlook: Engineered composite lumber provides superior performance in the applications targeted by AXIH. Recycled engineered composite lumber is environmentally friendly while providing both superior performance and economics once maintenance costs and service life are factored into the budgeting for competing building materials. With products developed for use in rail, transportation and military applications, however, superior performance and economics are meaningless without a verifiable safety record. Perhaps as important as the Company's intellectual property protection, AXIH products have been tested in rail and bridge applications for up to ten years, providing a significant barrier to entry against new competition. Serving as the most telling possible validation of product performance, economics and safety, AXIH has received product orders from a major domestic rail operator and from the U.S. military.

Although Murphy Analytics (MA) expects that revenue from the bridge and other product applications eventually will surpass crosstie revenues, MA is estimating that AXIH has the potential to generate approximately $0.41 in EBITDA / share and $0.27 in EPS from the rail crosstie opportunity alone. Utilizing the PowerShares QQQ™ recent multiple of 15.2x P/E, Murphy Analytics is placing a 12-month Price Target of $4.00 on AXIH.

AXIH Recent Price	**$0.90**
AXIH - Approximate Market Cap	**$14 million**
AXIH 52-Week Price Range	**$0.51 - $1.84**
MA 12-Month AXIH Price Target	**$4.00**

Please review the risk factors outlined later in this report and the important disclosures and disclaimers at the end of this report.

AXIH Initiation Report – Table of Contents

Company Contact Information:
Financial Communications:
Trilogy Capital Partners
Darren Minton, Vice President
Toll-free: 800-592-6067
darren@trilogy-capital.com

Company Contact:
Michael Johnson, Chief Financial Officer
Ph: 908-542-0888
info@axionintl.com

Analyst Contact Information:
Patrick J. Murphy, CFA
Murphy Analytics
Phone 636-273-9440
www.murphyanalytics.com
pmurphy@murphyanalytics.com

AXIH Executive Management

Name	Age	Position
James Kerstein	50	Chief Executive Officer
Marc Green	61	President, Treasurer
Michael Johnson	56	Chief Financial Officer

The principal occupations for the past five years (and in some instances, for prior years) of each of the AXIH executive officers is as follows:

James J. Kerstein. Mr. Kerstein has served as AXIH Chief Executive Officer since the reverse merger on 3/20/08 (the "Effective Date"). He has served as the Chief Executive Officer of Axion since 2007. Prior to joining Axion, Mr. Kerstein was the President of Plast-O-Matic Valves Inc., a privately-held manufacturer of high end polymer valves focused on the semiconductor and wastewater industries. From 1996 to 2004, he was the founder, Chief Executive Officer, President and Chairman of Polywood, Inc., a manufacturer of recycled plastic resins utilizing the Rutgers University developed technologies for the production of structural plastic products. Mr. Kerstein is credited as a co-inventor on multiple patents dealing with formulations and uses of recycled plastics

Marc Y. Green. Mr. Green has served as AXIH President and Treasurer since the Effective Date. He has served as President and Treasurer of Axion since its inception in August 2006. From July 2007 to December 2007, Mr. Green was an Investment Advisor at Merrill Lynch Private Client Group advising high net worth individuals Prior to joining Merrill Lynch, Mr. Green was a Senior Vice President of Keefe, Bruyette & Woods, an investment banking firm, managing institutional sales. From March 2003 to September 2004, Mr. Green served as Chief Operating Officer of Polywood, Inc.

Michael Johnson. Mr. Johnson was appointed as AXIH Chief Financial Officer in April 2008. Mr. Johnson devotes approximately 30% of his time to AXIH business. He is the founder and chief executive officer of Trumpe Global Enterprises, a management consulting firm, and served as a Managing Director and Chief Financial Officer of JP Morgan Chase in their Technology & Operations division from September 2000 to December 2005. Prior to joining JP Morgan Chase, Mr. Johnson was an Executive Vice President and Chief Financial Officer of African Continental Telecommunications Holdings Ltd., an African satellite telecommunications venture, from August 1997 to August 2000. Mr. Johnson served as Senior Vice President of Finance and Administration for NFL Properties from April 1996 to July 1997. From 1982 to 1996, Mr. Johnson served in various capacities at AT&T, including Chief Financial Officer and Vice President of General Business Communication Systems.

Intellectual Property and Research Development Overview

Introduction: The technology that drives AXIH products continues to be developed at the AMIPP Advanced Polymer Center at Rutgers University,[1] which owns 714,447 common AXIH shares. The research began in 1994 with a grant funded by the New Jersey Commission on Science and Technology to develop and test composite railroad ties made from recycled plastic. The research continues today at the AMIPP Advanced Polymer Center - a group of collaborative researchers and stakeholders dedicated to exploring immiscible polymer blends and the novel structures and materials obtained by processing such blends. Founded as a Research Excellence Center by the State of New Jersey and Rutgers University, the Center depends on an interactive relationship with industry, government, and other universities to generate a steady stream of new technologies, materials, and products in an environment focused on research, development, and commercialization. The Director of the Center is Richard Lehman and the Principal Investigator is Thomas Nosker, who is named as a co-inventor with AXIH CEO James Kerstein in multiple patents.

Research Objectives: As outlined in *"A Performance-Based Approach to the Development of a Recycled Plastic/Composite Crosstie[2]"* by Dr. Nosker etal, the initial objectives of the research were to:

- "Develop a specification that defines mechanical property targets and performance requirements based on the dimensions and physical and mechanical properties of a conventional wood crosstie.
- Fabricate prototype plastic/composite ties that conform to the details of the specification in item I.
- Conduct laboratory tests to confirm the properties of the plastic/composite tie.
- Install the plastic/composite ties in track and monitor their performance."

Concerns over the Use of Creosote: As explained in the paper, a principal motivation for the research was changing environmental concerns and regulations, and the rail industry's use of creosoted wood for ties: *"Alternatives for the wooden crosstie are being considered because of the desire to increase tie service life and also due to changing economic and regulatory conditions, which may impact the railroad industry's ability to use creosoted wood in the future. Particularly in moist, humid surroundings, the activity of biological organisms limits tie life. Plastic crossties are not subject to the attack of these organisms."* The concern over the use of creosote was confirmed in August 2007 with the Environmental Protection Agency's Preliminary Risk Assessment for Creosote,[3] which identified creosote as a possible human carcinogen with no registered residential uses. The primary commercial uses for creosote are railroad ties (70%) and utility poles (15% - 20%), according to the EPA.

[1] http://amipp.rutgers.edu/
[2] http://www.amipp.rutgers.edu/assets/documents/scholarlypubs/PerformanceBasedApproachPlasticCrosstie.pdf
[3] http://www.epa.gov/opp00001/factsheets/chemicals/creosote_prelim_risk_assess.htm

Overview of Select Patents Issued and Pending: The research at Rutgers has produced thirteen issued or pending patents covering fire retardants and the production of structural materials from waste materials. AXIH and Rutgers protect the intellectual property by combining design features with material formulations and processing techniques. AXIH CEO James Kerstein is named in multiple patents, including:

- **Patent 7,011,523[4]:** *"To increase the resistance of plastic and/or plastic composite railroad ties to sliding within the ballast of the railroad bed, for example, sliding lengthwise (in the direction of the longitudinal axis of the tie) and sideways (in the direction perpendicular to the longitudinal axis), ties with a textured surface which aids in anchoring the ties within the ballast of the railroad beds. In particular, the ties are provided with a pattern of indentations within a surface that contacts the ballast which increases the ties resistance to sliding. The pattern is molded into the ties so as to mechanically interact with the ballast (rocks) and provide as much resistance to sliding as possible, especially along the longitudinal axis of the tie but also in the direction perpendicular to the longitudinal axis".*
- **Patent 6,191,228[5]:** *"A method of maintaining proper distance between railroad rails is disclosed. The method utilizes railroad ties manufactured from a composite of polystyrene and polyolefin components, preferably obtained from recycled plastics. The composite exhibits a dual phase morphology wherein the two phases, polystyrene and polyolefin, intertwine and remain continuous throughout the material."*
- **Patent 5,789,477[6]:** ***"****A composite building material is disclosed produced from recycled materials. The composite building material is composed of an extruded mixture of high density polyethylene and a thermoplastic coated fiber material such as fiberglass. The resulting material has increased strength and is useful in high stress applications such as railroad ties."*
- **Patent 5,916,932[7]:** *A composite building material is disclosed produced from recycled materials. The composite building material is composed of an extruded mixture of high density polyethylene and a thermoplastic coated fiber material such as fiberglass. The resulting material has increased strength and is useful in high stress applications such as railroad ties.*
- **Application 20070036940[8]:** *"Modular plastic structural composites having a web section disposed along a horizontal axis and at least one flange section disposed along a horizontal axis parallel thereto and integrally molded to engage the top or bottom surface of the web section, wherein said composite is formed from a mixture of (A) high density polyolefin and (B) a thermoplastic-coated fiber material, poly-styrene, or a combination thereof. Composites molded in the form of I-Beams and bridges constructed there from are also disclosed."*

---

4 http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=6&f=G&l=50&co1=AND&d=PTXT&s1=kerstein&s2=james&OS=kerstein+AND+james&RS=kerstein+AND+james

5 http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=14&f=G&l=50&co1=AND&d=PTXT&s1=kerstein&s2=james&OS=kerstein+AND+james&RS=kerstein+AND+james

6 http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=10&f=G&l=50&co1=AND&d=PTXT&s1=5789477&OS=5789477&RS=5789477

7 http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=9&f=G&l=50&co1=AND&d=PTXT&s1=5789477&OS=5789477&RS=5789477

8 http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PG01&s1=james&s2=kerstein&OS=james+AND+kerstein&RS=james+AND+kerstein

- **Application 20030085293[9]:** *"To increase the resistance of plastic and/or plastic composite railroad ties to sliding within the ballast of the railroad bed, for example, sliding lengthwise (in the direction of the longitudinal axis of the tie) and sideways (in the direction perpendicular to the longitudinal axis), ties with a textured surface which aids in anchoring the ties within the ballast of the railroad beds. In particular, the ties are provided with a pattern of indentations within a surface that contacts the ballast which increases the ties resistance to sliding. The pattern is molded into the ties so as to mechanically interact with the ballast (rocks) and provide as much resistance to sliding as possible, especially along the longitudinal axis of the tie but also in the direction perpendicular to the longitudinal axis."*

The AXIH License: The AXIH license extends throughout the Americas, South Korea, Saudi Arabia and Russia, with the potential to expand into additional territories. The license for sales in China is shared with another company with which AXIH may pursue a strategic partnership. The license held by AXIH remains in force until patent expiration, which begins in 2014 and extends until the expiration of the last patent awarded. In exchange for the granting of the license, Rutgers is paid royalties of 1.5% - 3.00% on product sales, subject to a certain minimum ($10,000 in 2008). AXIH also agrees to reimburse Rutgers for certain patent defense costs. Additionally, Rutgers has been paid $32,000 and owns 714,447 common AXIH shares.

Compositions: There are five different compositions that all consist of high density polyethylene (HPDE), a polymer commonly available from post-consumer and post-industrial waste streams, together with either stiffer polymers or in combination with fiberglass.

Manufactured Shapes: There are three pending general patents covering manufactured shapes, including I-beams and tongue-in-groove planking. Additionally there is a patent pending for a method for producing longer I-beams with variable shapes. Lastly, there is a patent pending for a newly designed railroad crosstie that obviates the need for the expensive steel tie plate.

Fire Retardants: AXIH has a license for two pending fire retardants, one of which is sprayed onto plastic lumber and thermoplastics and the other developed specifically for the US military for the protection of ammunition boxes.

Summary: In characterizing the Company's products relative to competing solutions, AXIH cites the following advantages:

- Lower cost per square foot for higher quality material.
- Impervious to moisture decay, fungus and insect infestation.
- Absence of toxins eliminates pollution and preserves wildlife habitat.
- Textured surface doesn't absorb water for less slippage than wood (safety upgrade).

[9] http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=9&f=G&l=50&co1=AND&d=PG01&s1=james&s2=kerstein&OS=james+AND+kerstein&RS=james+AND+kerstein

- Withstand severe weather and flooding.
- Customized for extreme traffic and weight (military and highway vehicles, maintenance and construction vehicles).
- Decor of classic and contemporary models (various surface, railing and curbing colors, textures and shapes) blends with course surroundings.
- Minimal color fading and looks new over time.
- Quick, hassle-free installation by contractor or course staff reduces time, manpower, machinery, golfer disruption and cost.
- Virtually maintenance-free -- no painting, staining or patching -- saves on repair labor and downtime.

Overview of Select Existing AXIH Product Installations

Ft. Leonard Wood Military Base[10]: Ft. Leonard Wood, home to the U.S. Army Maneuver Support Center (MANSCEN), is a 63,000 acre base in Pulaski County, Missouri. Following are some of the details regarding the bridge installation:

- ***Placed in Service:*** The bridge was constructed in June 1998.
- ***Rating:*** The bridge is rated for light vehicular traffic, replacing a wooden bridge that carried only pedestrian traffic due to its deteriorated condition.
- ***Dimensions:*** 26 feet wide by 24 feet long.
- ***Raw Materials:*** Comprised of 13,000 pounds of post consumer plastics, or approximately 78,000 one-gallon milk jugs or 335,000 8 ounce foam coffer cups.
- ***Life expectancy:*** Officials at Ft. Leonard Wood estimate that treated wood structures on the base have a life expectancy of 15 years with planned biannual maintenance. AXIH estimates a 60-year life for the recycled engineered composite lumber bridge with very low maintenance requirements.
- ***Relative Cost:*** The cost of AXIH's bridge was approximately 2.5x times that of a traditional wooden bridge. However, the wooden bridge likely will require replacement 3 additional times during the life of the recycled engineered composite bridge. Additionally, the AXIH bridge may be recycled again when removed from service.
- ***Maintenance:*** AXIH estimates that because of the lower ongoing costs associated with the maintenance of recycled engineered composite lumber structures, the payback period is approximately 7.5 years.
- ***Performance:*** A 2007 analysis conducted by the U.S. Corps of Army Engineers found that the bridge is as durable today as it was when first installed, and it has required minimal maintenance.

[10] http://www.wood.army.mil/wood_cms/

AAR Test Track[11]: The Association of American Railroads (AAR) members include the major freight railroads in the United States, Canada and Mexico, as well as Amtrak. The AAR membership organization oversees a 140,000-mile rail network and sets new standards for innovation, safety and technology. An important part of AAR's mission is to work with elected officials and leaders in Washington, D.C. on critical rail transportation issues to ensure that the railroads meet America's transportation needs today and in the future. The need for freight transportation is expected to skyrocket at the same time as Americans are looking for cleaner, healthier, more efficient solutions. Following are some of the details regarding the installation of AXIH being tested by the AAR:

- ***The Transportation Technology Center, Inc. (TTCI)[12]:*** AXIH technology is installed at the Transportation Technology Center, Inc. The TTCI, a wholly owned subsidiary of the Association of American Railroads. TTCI is a world-class transportation research and testing organization, providing emerging technology solutions for the railway industry throughout North America and the world. Headquartered near Pueblo, Colorado, TTCI manages extensive track facilities, state-of-the-art laboratory facilities, and a highly talented engineering staff. The mission of the TTCI is accelerating the use of clean, safe and efficient technologies by railways worldwide, and TTCI's vision is to be the worldwide provider for high-value rail transportation technology development, testing, standards. TTCI manages the Federal Railroad Administrations' (FRA) Transportation Technology Center (TTC), located northeast of Pueblo, Colorado. TTC is operated under a care, custody, and control contract with the FRA. This 52-square mile, secure and remote site operates with a vast array of specialized testing facilities and railways. TTC enables isolated testing for all categories of freight and passenger rolling stock, vehicle and track components, and safety devices.
- ***Dimensions:*** Over 200,000 Axion formulations are installed in-line at the TTCI and across the U.S.

[11] http://www.aar.org/AboutAAR/AboutUs.aspx
[12] http://www.aar.com/

- ***Ongoing Testing:*** 1,500 million gross tons (MGT) accumulated to date.

Bridge at Wharton State Forest[13]: Wharton State Forest is the largest single tract of land within the New Jersey State Park System. Following are some of the details regarding the installation:

- ***Rating:*** The bridge is rated for a maximum capacity spot load of 72,000 pounds, rated HS20-44.
- ***Dimensions:*** 56 feet long.
- ***Weight:*** 30,000 pounds.
- ***Description:*** Structural composite I-beams (patent pending) and tongue and groove planking (patent pending) installed for a vehicular bridge over the Mullica River in the New Jersey Pine Barrens in 2003.

[13] http://www.state.nj.us/dep/parksandforests/parks/wharton.html

Overview of Select Existing Business Development Opportunities

Military Installations: As a result of the success of the installation at Ft. Leonard Wood, AXIH received an order in July 2008 for the fabrication and installation of a 140,000 pound load, 38 foot long tank bridge at Ft. Bragg, North Carolina, home to nearly 100 bridges. Ft. Bragg[14] is the largest US Army base by population, serving a population of 52,280 active duty Soldiers, 12,624 Reserve Components and Temporary Duty students, 8,757 civilian employees, 3,516 Contractors, and 62,962 active duty family members. There are 98,507 Army retirees and family members in the area. AXIH received an additional order from the Army in September 2008 for another 140,000 pound load, 51 foot long tank bridge at Ft. Bragg. In awarding the contract, the Army stated:

> *"Because of the durability (corrosion resistance) these materials offer, there is an interest within the Army for using thermoplastic composites for vehicular bridge applications at a minimum 70 ton load capacity. The need for a minimum 70 ton load capacity will require an innovative design and materials application -- the existing wood bridge to be replaced currently has a load rating of 6 tons."*

Agreement with Ecological Development LLC[15]: Ecological Development, whose founders include former New York state Governor George Pataki, provides green retrofitting solutions by utilizing best-in-class software technology and cutting-edge green products to not only reduce energy consumption and greenhouse gas emissions, but also to efficiently manage a building's impact on all environmental systems. The Company has unique, industry-leading technology and partnerships that allow it to assess and implement regenerative solutions for all systems across portfolios of buildings. Ecological has strategic relationships with a wide network of companies and individual consultants who work with the Company regularly. Within the Ecological family of companies are industry leaders and pioneers in their respective field of sustainability. All of our partnerships add value to our regenerative approach and solutions for development and consulting projects. These relationships[16] include partners providing such expertise as architecture, landscape architecture, planning, civil engineering, stormwater / wastewater / hydrological consulting, environmental and green building consultants.

AXIH's expectation that Ecological's extensive network of commercial and governmental relationships will lead to a range of potential infrastructure building opportunities already has proven to be correct. Some of the opportunities being pursued by AXIH through Ecological include:

- **Texas Highway Project:** Through Ecological's efforts, AXIH has been invited to become a vendor approved by the State of Texas and has begun looking to be specified

[14] http://apps.mhf.dod.mil/pls/psgprod/f?p=107:6:814046657061451::::P6_INST_ID:3760
[15] http://www.ecologicaldevelopment.com/whatwedo.html
[16] http://www.ecologicaldevelopment.com/partners.html

for certain projects. These near-term opportunities include a 200-mile highway project that will include 40+ bridges for which AXIH material is being considered for construction similar the AXIH bridges at Ft. Bragg.

- **"Green" Construction Projects:** Additionally, Ecological is in ongoing discussions related to several engineering projects considering the use of "green" building materials for municipal bridges and marine projects.
- **Ecological's International Reach:** Lastly, as an indication of the breadth of the Ecological network, AXIH is negotiating to supply railroad ties to be utilized as part of a 1,600 kilometer rail project to be built in the Middle East. The project is expected to commence in the near future and to be completed within four years. Due to the inferior performance of concrete ties, the region's lack of available trees and lumber for traditional rail ties, and the high relative cost of both of these alternatives in the Middle East, AXIH materials seem to be the optimal solution for the project.

The Rail Opportunity: As validation for the products designed for the railway sector, AXIH has announced that a major US railroad company has contracted to purchase approximately $560,000 of crossties from AXIH. While this order will provide near term revenue for AXIH, the long-term value lies in the potential for an ongoing relationship with this and other railway operators which have approved AXIH as a vendor and approved AXIH products. AXIH previously announced in March 2008 an order for railroad switch ties from the Toronto Transit Commission[17], which is responsible for the consolidation, coordination and planning of all forms of local passenger transportation within the urban area of Toronto, except for railways incorporated under federal and provincial statutes, and taxis.

Axion Golf: The head of Market Development for Bridges and Bulkheading for Axion Golf is Joe York, whose sixteen years of experience in the golf and construction industries includes spearheading entry into the golf market by York Bridge Concepts[18], which claims to be the nation's largest on-site timber vehicular bridge builder with well over 100 bridges built. Axion Golf also has been endorsed by Billy Casper Golf[19], which manages over 100 golf facilities and has developed over 30 new golf courses in the last decade, and by PGA Tour star and course architect Brad Faxon[20].

Fire Retardant and Other Applications: AXIH technology has the potential to replace a wide range of steel and virgin plastic applications particularly as the prices of these materials rise. Other near and long-term potential applications include marine pilings, platforms and boardwalks.

[17] http://www3.ttc.ca/
[18] http://www.ybc.com/
[19] http://www.billycaspergolf.com/bcasperindex.asp?id=127
[20] http://www.boothgolf.com/about.html

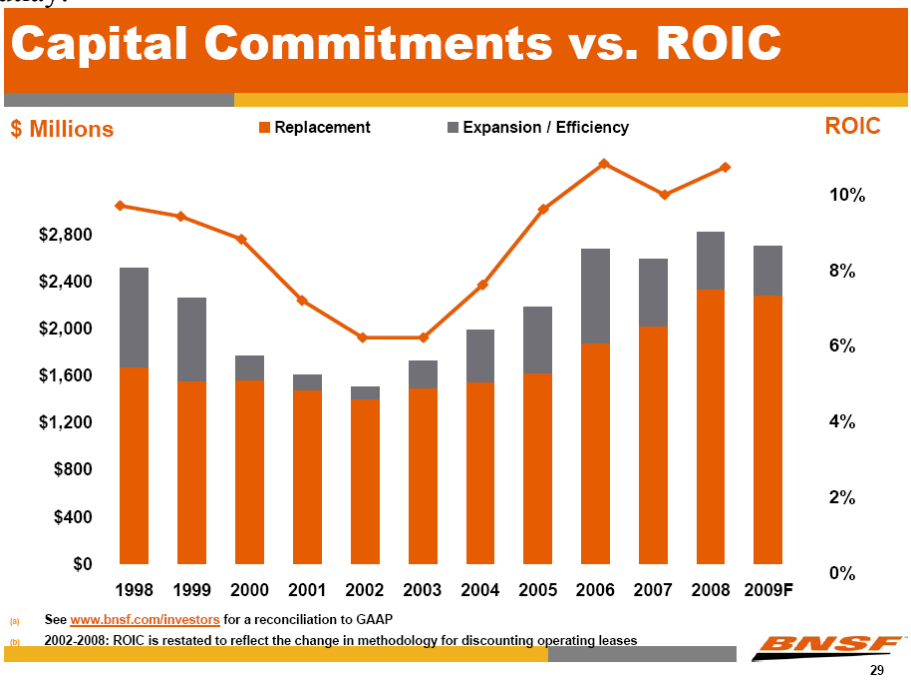
Additionally, Axion has two fire retardant formulations that are in the process of being commercialized. One of these has received special attention from both military and civilian contractors; the other has received attention from contractors in the rail industry. One fire retardant is specific to plastic applications while the other formulation has demonstrated superior heat barrier properties for plastic, steel, wood, and concrete applications in laboratory and initial field testing. Applications for Axion′s fire retardant products include:

- Ammunition boxes
- Railroad crossties (tunnel and overhead installations)
- Girder substructures of high rise buildings
- Bridge substructures
- Platform walkways

Overview of AXIH Target Markets

With the passage of the stimulus package and massive global infrastructure spending needs, AXIH sees significant opportunity in existing and near-term business development discussions for commercial, governmental and military applications, including the following:

Railroad Crosstie Opportunity: The Railway Tie Association[21] estimates that 20 million+ crossties are purchased annually in the U.S. AXIH estimates that perhaps 15%-30% of these crossties are installed in areas most conducive to non-wooden ties. AXIH estimates this market to be $1 billion annually in the U.S. for Class I railroads. As reflected in the following graphic[22] from Burlington Northern Santa Fe Corp. (NYSE: BNI), maintenance expenditures, including the replacement of crossties, represents the vast majority of a rail operator's annual capital investment outlay:



BNI, which operates 32,000 route miles in 28 states and two Canadian provinces, spent a total of $2.18 billion[23] in capital expenditures in 2008, including $358 million for ties and $544 million on signals, bridges, structures and other right of way improvements.

Federal Marine Projects: The GAO's 2002 Report on Marine Transportation[24] cites an average annual expenditure of $3.9 billion on the marine transportation system, creating an opportunity for AXIH's marine pilings and bulkheads.

[21] http://www.rta.org/Home/FAQs/tabid/70/Default.aspx
[22] http://www.bnsf.com/investors/presentations/pdf/2009jpmorgan.pdf
[23] http://www.bnsf.com/investors/investorreports/4Q_2008_Investors_Report.pdf

Rail Bridge Opportunity: Following are excerpts from an 8/07 General Accounting Office (GAO) report on the nation's 76,000 rail bridges and 800 tunnels[25]:

> *"Bridges and tunnels on the freight railroad network are aging and are susceptible to a variety of conditions that may cause wear or deterioration… According to an FRA bridge survey completed in 1993, more than half of the nation's railroad bridges were built before 1920…Increased weight and traffic can cause fatigue in timber and steel bridges. Timber bridges are also susceptible to decay from weather and insects, and steel bridges near salt water may be susceptible to high rates of corrosion…. Private railroads have an incentive to maintain their infrastructure in order to maintain business operations, and most railroads privately finance their infrastructure maintenance and improvement projects… Class I railroads, which own over 75 percent of U.S. railroad bridges and over 800 tunnels, maintain detailed information on the condition of their bridges and tunnels and generally have the resources to invest in a robust maintenance and inspection regime."*

Highway / Bridge Repair Funds: As reported by the Federal Highway Administration,[26] total highway expenditures by Federal, State, and local governments increased by 45% percent between 1997 and 2004, to $147.5 billion. The percentage of bridges considered deficient dropped from 29.6 percent in 1998 to 26.7 percent in 2004. There are nearly 600,000 highway bridges in the U.S., approximately 34% of which are steel structures.[27] AXIH estimates an annual U.S. expenditure of $83 billion for highway / bridge repair.

Government / Military Market: The number of active installations in the United States is 210 bases and facilities, with another 58 bases overseas[28]. The total Department of Defense budget for fiscal year 2009 is $515 billion in discretionary authority[29]. On April 7, 2009, Secretary of Defense Robert Gates recently submitted a proposed budget with a topline of $534 billion for Fiscal 2010. Although the installation-specific summary[30] for 2009 includes specific amounts budgeted for some road related expenditures, including $13.2 million for access roads at Ft. Bragg, much of the construction related budget items are unspecified. With 268 global installations, it is reasonable to assume, however, that the military opportunity is significant.

Similarly, as stated in The American Recovery and Reinvestment Act,[31] there is a significant opportunity for AXIH in the stimulus spending by the Federal government:

---

[24] http://www.gao.gov/new.items/d021090t.pdf
[25] http://www.gao.gov/new.items/d07770.pdf
[26] http://www.fhwa.dot.gov/policy/2006cpr/pdfs/esblue.pdf (PDF page 9 of 41)
[27] http://www.tfhrc.gov/focus/sep07/02.htm
[28] http://www.defenselink.mil/comptroller/defbudget/fy2009/fy2009_OandM_overview.pdf;
[29] http://www.defenselink.mil/releases/release.aspx?releaseid=11663
[30] http://www.defenselink.mil/comptroller/defbudget/fy2009/fy2009_c1.pdf; PDF page 196.
[31] http://www.recovery.gov/?q=content/act

> *"…as part of the $150 billion investment in new infrastructure, enact the largest increase in funding of our nation's roads, bridges, and mass transit systems since the creation of the national highway system in the 1950's."*

In searching through the full text of the Act[32], there are numerous allotments to bridge and military related expenditures, some of which are noted below. Additionally there are numerous specific allotments to environmentally friendly projects for which AXIH products may be ideally suited.

Budgeted Expenditure	Department	Description
$142 million	Coast Guard	*For alteration or removal of obstructive bridges… That the Coast Guard shall award these funds to those bridges that are ready to proceed to construction.*
$180 million	Bureau of Land Management	*Construction, reconstruction, decommissioning and repair of roads, bridges, trails, property, and facilities and for energy efficient retrofits of existing facilities.*
$115 million	Fish and Wildlife	*Construction, reconstruction, and repair of roads, bridges, property, and facilities and for energy efficient retrofits of existing facilities*
$650 million	Department of Agriculture	*Priority road, bridge and trail maintenance and decommissioning, including related watershed restoration and ecosystem enhancement projects; facilities improvement, maintenance and renovation; remediation of abandoned mine sites; and support costs necessary to carry out this work.*
$1.5 billion	Department of Transportation	*That projects eligible for funding provided under this heading shall include, but not be limited to, highway or bridge projects eligible under title 23, United States Code, including interstate rehabilitation, improvements to the rural collector road system, the reconstruction of overpasses and interchanges, bridge replacements, seismic retrofit projects for bridges, and road realignments…*
$2 billion+	Department of Defense	*$640 million for Military Construction for the Army, Navy and Marine Corps, Air Force and $1.45 billion for Military Construction, Defense-Wide.*

General Industrial: Additional potential applications include marine construction, sound barriers, boardwalks, pallets, and residential decking superstructure in addition to the Company's opportunities in the golf and fire retardant properties.

[32] http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.pdf

AXIH Operations

Overview: The AXIH model calls for outsourcing specific functions to strategic partners when possible, allowing the Company, currently eight full time employees, to minimize corporate overhead. Business development, for example, is handled by the management team, key shareholders and by strategic partners such as Ecological Development. Similarly, while AXIH is dedicating resources internally to research and development, the Company also benefits from the ongoing research conducted at Rutgers University.

Raw Materials: As part of the mandate to monitor the nation's municipal solid waste (MSW), the EPA monitors the production and recycling of plastic. The EPA cites the following statistics[33] for plastics production:

- In 2007, the United States generated almost 14 million tons of plastics in the MSW stream as containers and packaging, almost 7 million tons as nondurable goods, and about 10 million tons as durable goods.
- The total amount of plastics in MSW—almost 31 million tons—represented 12.1 percent of total MSW generation in 2007.
- The amount of plastics generation in MSW has increased from less than 1 percent in 1960 to 12.1 percent in 2007.
- Plastics are a rapidly growing segment of the MSW stream. The largest category of plastics are found in containers and packaging (e.g., soft drink bottles, lids, shampoo bottles), but they also are found in durable (e.g., appliances, furniture) and nondurable goods (e.g., diapers, trash bags, cups and utensils, medical devices).
- Plastics also are found in automobiles, but recycling of these materials is counted separately from the MSW recycling rate.

The American Chemistry Council[34] estimates the following with regard to recycling:

- *"The quantity of post-consumer plastics recycled has increased every year since at least 1990.*
- *In 2006 the amount of plastic bottles recycled reached a record high of 2,220,000,000 pounds.*
- *The amount of PET bottles recycled in 2006 increased more than 102 million pounds compared to 2005.*
- *HDPE bottle recycling increased in 2005 to 928 million pounds.*
- *All plastic bottles were recycled at a rate of 24 percent in 2005."*

[33] http://www.epa.gov/osw/conserve/materials/plastics.htm
[34] http://www.americanchemistry.com/s_plastics/sec_content.asp?CID=1184&DID=4395

In describing the recycling process, the American Chemistry Council explains that after collection and handling of the plastics, the reclamation process begins: *"sorted plastics are chopped, washed and converted into flakes or pellets that are then processed into new products. Chemical recycling technologies process plastics back to their original building blocks (monomers or petroleum feedstocks). These can then be recycled into a number of different products, including new plastics."*

In terms of the general recycling market, the Council states: *"The definition of "recycler" can mean a company that collects materials, a company that sorts collected material, a company that mechanically cleans sorted collected materials, a company that processes mixed collected materials, and a company that upgrades cleaned sorted materials. The Plastic Division's 2007 markets update identified 1,334 businesses that handle and/or reclaim (sort, process and/or produce) post-consumer plastics domestically, and 203 businesses that broker plastics for export."*

Manufacturing: Unlike all other composite building materials commonly found in home improvement stores and not designed for load-bearing use, AXIH materials boast strength and stiffness properties that allow them to support significant weight. This means even the superstructure of a large bridge can be made from AXIH material. This simply cannot be done with other composites. AXIH building materials are impervious to the elements of nature, resulting in an indefinite life with little to no maintenance. Other composite materials that are not made from only 100% recycled plastic materials are susceptible to weather and other everyday wear and tear, eventually requiring repair, replacement and other maintenance.

AXIH is responsible for sourcing raw materials, monitoring all phases of production and ensuring quality control, but in an effort to minimize capital requirements while maximizing manufacturing capacity and geographic reach, AXIH relies upon 3rd party extrusion specialists to manufacture products. Many of the recyclers described previously also have extrusion and manufacturing capabilities.

Comparison and Contrast Against Select Recycled Engineered Composite and Plastic Lumber Manufacturers

Overview: Because AXIH production is not yet at a scale where operating margins may be extrapolated from historical results, an alternative method for considering profitability is to examine the results from similar companies or industries. A January 2001 report, *"An Estimate of the Effect on Greenhouse Gases by Using Recycled Plastic as a Substitute for Treated Wood Railroad Crossties"*[35] by Rutgers University's Dr. Nosker and Mr. Richard Lampo from the U.S. Army Engineering Research and Development Center states that at least six manufacturers have produced recycled-plastic based ties that have been installed in various quantities in active track

[35] http://www.epa.gov/Region5/solidwaste/RR-Ties-GHG-report%20final.pdf

within the U.S. However, Murphy Analytics is not aware of any publicly available information regarding the operating results of these companies.

In terms of directly relevant publicly traded competitors, North American Technologies Group[36] (PinkSheets: NAMC), is the most comparable. For additional reference points on possible operating margins, companies like Trex (NYSE: TWP) and Advanced Environmental Recycling Technologies (Nasdaq: AERT) also have some relevancy. Chemical giants like Dow and DuPont have extensive plastics businesses, but their production is in virgin plastic applications and their operations are sufficiently diverse to minimize the relevance for AXIH operations. Other plastic lumber companies generally do not emphasize commercial applications, instead targeting a range of predominantly residential uses often with virgin rather than recycled plastic, again resulting in poor comparability. Following are comments on NAMC, TWP and AERT.

North American Technologies Group Overview: NAMC has a current market capitalization of approximately $2.7 million and a stock price of $0.25, down from around $30 at the beginning of the decade. NAMC has been producing railroad ties for over 12 years, installing 1 million ties through June of 2008. NAMC has operated its own production facility since 2004. NAMC's TieTek™ reports that its composite ties are 85% recycled material, comprised of plastic, waste tires, waste fiberglass and structural mineral fillers. As of the 10-Q for the period ended 6/29/08, NAMC reported an accumulated deficit of $118 million. For the 9 months ended 6/29/08, NAMC reported $24.4 million in revenue, $5.7 million in gross profit (a 23% gross profit margin) and net income of ($493k). NAMC reported negative gross profit for the three preceding full fiscal years. NAMC also reported a warranty reserve of $3.1 million, or approximately 38,000 ties including 27,000 ties that the Company has agreed to replace by 12/31/09. NAMC was delisted from the OTCBB in February 2008 and announced the replacement of the CEO in March of 2008. Unlike AXIH engineered composite lumber which consists entirely of recycled plastic, NAMC produces a more complex product consisting of a range of ingredients.

Contrasting NAMC and AXIH: Although being the first mover may present an advantage in some markets, there are also countless examples of tremendous value created by technologies that were not the first to market – Google was not the first search engine, VHS replaced betamax, and a Harvard Business School article[37] entitled *"Behind Apple's Strategy: Be Second to Market"* explains Apple's strategy of intentionally leaving the initial groundbreaking to others. In considering the differences between NAMC and AXIH, there are a few critical areas of distinction:

[36] http://www.tietek.com/
[37] http://hbswk.hbs.edu/archive/4970.html

Differentiating Between NAMC and AXIH		
	NAMC (TieTek™)	**Axion International Holdings**
Product	*85% recycled plastic. Numerous other materials including waste tires, waste fiberglass and structural mineral fillers.*	*AXIH engineered composite lumber is make from 100% recycled plastic.*
Operations	*NAMC has operated its own manufacturing facility since 2004.*	*AXIH relies on an outsourcing model, including manufacturing, which reduces capital equipment needs and increases proximity to raw materials and installations.*
Target Markets	*Railroad crossties.*	*Railroad crossties and bridge installations are key initial target markets, but AXIH also targeting a wide range of additional applications.*
Timing	*NAMC has been producing ties for over 12 years, accumulating a significant deficit during the startup, trial and installation phases.*	*While the technology has been in development and testing for over 12 years, AXIH as an entity was formed in 2008 to advance this technology. AXIH enters the market at a unique moment in time for an enterprise focused on infrastructure and the environment.*

Comparison of Products: Created entirely from 100% recycled plastic, AXIH engineered composite lumber products are uniform in terms of raw materials, producing consistent results in mixing and shaping the end forms, and making it easier for licensed manufacturers to produce AXIH products. Alternatively, NAMC ties consist of 85% recycled plastic in addition to waste tires, waste fiberglass and structural mineral fillers. As explained in a paper[38] by mineral and chemicals producer R.T. Vanderbilt, mineral fillers in general are utilized to "*modify the properties of rubber and plastic products…Most of the fillers used today offer some functional benefit that contributes to the processability or utility of the rubber or plastic product.*" This integration of 15% of the raw materials into NAMC products, seems, by definition, to add significant manufacturing and design complexity as well as the potential for inconsistent results or imperfectly blended materials. As of the Company's last filing, for the quarter ended 6/30/08, NAMC was carrying a reserve liability of approximately $2.2 million for the ties it has agreed to replace by 12/31/09.

Comparison of Operations / Target Markets / Timing: NAMC has not yet submitted the 10-K for the period ended 9/30/08. NAMC also has been delisted from the OTC Bulletin Board and recently terminated it's CEO[39] "*because of irregularities in reimbursement requests and unauthorized use of company funds.*" In a rail tie market of $1 billion, there is room for more than one recycled plastic tie producer, but NAMC clearly seems to be at a very different moment in its history than AXIH. More importantly, the AXIH product is simpler to manufacture and the

[38] http://www.rtvanderbilt.com/FillersIntroWeb.pdf
[39] http://finance.yahoo.com/news/NATG-Announces-New-Chief-prnews-14538286.html

company has opted for an outsourced manufacturing model that shifts risk and capital requirements to licensed manufacturing partners. As of 9/3/07, NAMC had 94 full-time employees and 23 contracted employees. Although AXIH, which currently has 8 full time employees, is now ramping up its sales and production capacity, the products have 5-10 years of testing history that has resulted in orders in its two key initial target markets – rail ties and bridges. Furthermore, AXIH is commercializing its technology at a time when infrastructure and the environment are critical concerns for industry as well as state / local / federal governments. At minimum, AXIH is positioned to expand the recycled plastic rail tie market and may have the opportunity to dominate the market completely depending upon what happens with NAMC. Additionally, the bridge market targeted by AXIH is many times larger than the tie market and AXIH attacks this opportunity with a running start after 10+ years of testing at Ft. Leonard Wood and new orders at Ft. Bragg, which alone has nearly 100 bridges. As noted in the AXIH 9/22/08 release announcing the order for a 2nd bridge at Ft. Bragg, a study by the U.S. Army Corps of Engineers found that the Ft. Leonard Wood Bridge has had virtually no maintenance and still looked like new nine years later. It seems clear that there is a tremendous market opportunity for recycled engineered composite lumber applications, and it also seems clear that AXIH management has positioned the Company very well to capitalize on these opportunities.

Trex[40] (TWP) and Advanced Environmental Recycling Technologies[41] (AERT): Although targeting different markets for their products, TWP and AERT have some relevancy for AXIH operations as an indication of potential operating margins. TWP is the country's largest manufacturer of wood-alternative decking, railing and fencing, with products sold in over 5,500 retail locations in the U.S. and Canada. TWP utilizes both virgin and recycled raw materials, purchasing approximately 300 million pounds of used polyethylene and an equal amount of hardwood sawdust each year. The company recycles over 1.3 billion grocery retail bags annually. For the year ended 12/31/08, TWP reported $329 million in revenue with a gross profit of $91 million, or 28%. For the preceding full years, TWP reported gross profit margins of 12% and 24%.

AERT has developed several technologies which significantly advanced state-of-the-art recycling of plastic scrap and related manufacturing processes. AERT manufactures a growing line of low-maintenance composite building products from recycled polyethylene plastic and waste wood fiber which are used as a non-wood alternative building material for the homebuilding market including decking, door and window components, and exterior trim. For the year ended 12/31/08, AERT reported $87.4 million in revenue with $6.2 million in gross profit for a 7% gross margin. For the two preceding years, gross margin was 9.6% and 20.7%.

[40] http://www.trex.com/about/
[41] http://www.aertinc.com/

AXIH Liquidity and Potential Cash Flows

Balance Sheet: As of 12/31/08, AXIH reported $930,376 in cash and equivalents, $1.1 million in current assets and $1.6 million in total assets. Current liabilities were $831,931 and total liabilities were $1.2 million, including $342,407 in net senior secured convertible debentures. AXIH has accumulated a $2.9 million deficit during development stage and reports a stockholders deficit of $380,951.

Breakeven Calculation: The Company has announced contracts with near-term revenue totaling $1,360,000, consisting of $560,000 from a major US rail line and approximately $800,000 for bridge replacement at the Army's Ft. Bragg. Although it is likely that the margins will be higher for the more customized bridge products, a gross margin of 30% seems like a reasonable estimate for the rail tie operations given the recent experience of NAMC and TWP.

AXIH is incurring approximately $150,000 per month in recurring selling / general / administrative, research and development costs. With annual corporate overhead costs of approximately $1.8 million, an operating margin of 30% implies that AXIH may reach breakeven for EBITDA at $6 million in annual revenue from the sale of rail ties.

Potential Cash Flow if AXIH Replicates / Outperforms NAMC Revenue Generation:

The following table presents the historical revenue, gross margins and revenue growth rates for NAMC for fiscal years 2004 through an annualized estimate for fiscal 2008:

NAMC Historical Revenue and Gross Profit Performance						
	9 Months Ended 6/30/08	Fiscal 2008 Annualized Estimate	Fiscal 2007	Fiscal 2006	Fiscal 2005	Fiscal 2004
Revenue	$24,390,185	$32,520,247	$21,661,000	$10,622,000	$5,171,000	$3,348,000
Gross Profit	$5,724,846	$7,633,128	($1,149,018)	($8,151,164)	($7,627,116)	($3,508,043)
Gross Profit %	23%	23%	n/a	n/a	n/a	n/a
Annual % Revenue Growth	n/a	50%	104%	105%	54%	n/a
	Estimated Compound Annual Growth Rate For NAMC Revenues 2004 - 2008:					**77%**

The key data points in the table are the estimated compound annual revenue growth rate of 77% and the lack of a gross profit for the full fiscal years for 2007 dating back to 2004, when NAMC began operating its own manufacturing facility. In contrast to NAMC, AXIH outsources manufacturing, creating a significantly greater proportion of variable costs by minimizing fixed costs. In terms of product validation, the 77% growth rate in revenues clearly illustrates the market's acceptance of the recycled plastic lumber tie.

The following table presents potential AXIH cash flows based on the assumption that AXIH is able to continue to expand the rail tie market and/or take market share from NAMC. The table does not present chronological annual projections, but rather shows potential AXIH annual cash flows as a percentage of the most recent annualized revenue performance for NAMC.

Potential AXIH Cash Flows and EBITDA from CrossTie Product Only					
	AXIH Revenues as a % of NAMC:	**AXIH Revenues as a % of NAMC:**	**AXIH Revenues as a % of NAMC:**	**AXIH Revenues as a % of NAMC:**	**AXIH Revenues as a % of NAMC:**
	20%	**50%**	**100%**	**150%**	**200%**
Revenue	$6,500,000	$16,250,000	$32,500,000	$48,750,000	$65,000,000
Gross Profit at 30% Margin:	$1,950,000	$4,875,000	$9,750,000	$14,625,000	$19,500,000
SGA**	$1,800,000	$2,000,000	$2,250,000	$2,500,000	$2,750,000
EBITDA	$150,000	$2,875,000	$7,500,000	$12,125,000	$16,750,000
Diluted shares	18,350,000	18,350,000	18,350,000	18,350,000	18,350,000
EBITDA / Diluted Shares	$0.01	$0.16	$0.41	$0.66	$0.91
Notes:					
**Based on the Murphy Analytics estimate for annualized NAMC revenue for fiscal 2008*					
***SGA Increase is a Murphy Analytics estimate*					

As outlined previously, Murphy Analytics is estimating that AXIH reaches breakeven for EBITDA at approximately $6 million in annual revenue. Because AXIH relies on outsourced manufacturing, the potential impact of the Company's low fixed cost model is illustrated clearly by the disproportionate gains in EBITDA relative to various revenue scenarios. The table indicates that if AXIH is able to replicate NAMC's annualized 2008 revenue performance of $32.5 million, AXIH has the potential to generate $0.41 in EBITDA per fully diluted share.[42] Assuming interest, taxes, depreciation and amortization reduce EBITDA by 35%, this translates into the potential for $0.27 in earnings per fully diluted share, again for the rail crosstie opportunity alone.

The table does not make any assumption with regard to potential revenue for AXIH bridge products or the other potential applications, although these markets are many times larger than the tie market. The purpose of this table simply is to show potential AXIH cash flows for the crosstie market, which although still in its infancy, has proven to have excellent growth potential. As noted previously, AXIH has received an order of approximately $800,000 for the replacement of two bridges at Ft. Bragg, which alone has 100 bridges, and is one of 210 military installations nationwide and 268 internationally.

[42] For purposes of this illustration, the fully diluted share count includes approximately 380,000 in warrants with strike prices over $4.70 / share

Capital Raise: As evidenced by the 8-K filing on 1/20/09, in which AXIH disclosed the sale of 1,562,5000 common shares to Insight Partners, LLC, AXIH has demonstrated an ability to raise the capital required to sustain operations. This Securities Purchase Agreement with Insight Partners, priced at $0.88 per share, has generated $1,375,000 in gross proceeds to AXIH, and Insight Partners has the ability to purchase another 937,500 shares, potentially raising another $825,000 in gross proceeds to AXIH.

AXIH Ownership and Share Count

MA Estimate of Outstanding and Potential Fully Diluted Common Share Count

	Conversion / Exercise Price	Common Shares
Outstanding Common Share Count as of 2/17/09		15,563,137
Class A Warrants	$5.36	95,473
Class B Warrants	$5.96	95,473
Class E Warrants	$4.74	188,018
Note Warrants issued 11/06	$2.36	47,482
Series A Debentures	$0.30	260,787
Series A Debentures	$0.40	687,500
Series B Debentures	$0.30	666,667
New Debentures	$1.50	115,000
Options - 5 year term - Vest at $10 million in annual AXIH revenue	$0.00002	104,600
Options - 5 year term - Vest at $15 million in annual AXIH revenue	$0.00002	156,900
Options - 5 year term - Vest at $25 million in annual AXIH revenue	$0.00002	156,900
Options - 5 year term - Vest at $25 million in annual AXIH revenue	$0.00002	209,200
		18,347,137

**The average conversion / exercise price for the Warrants and Debentures noted above is $1.30*

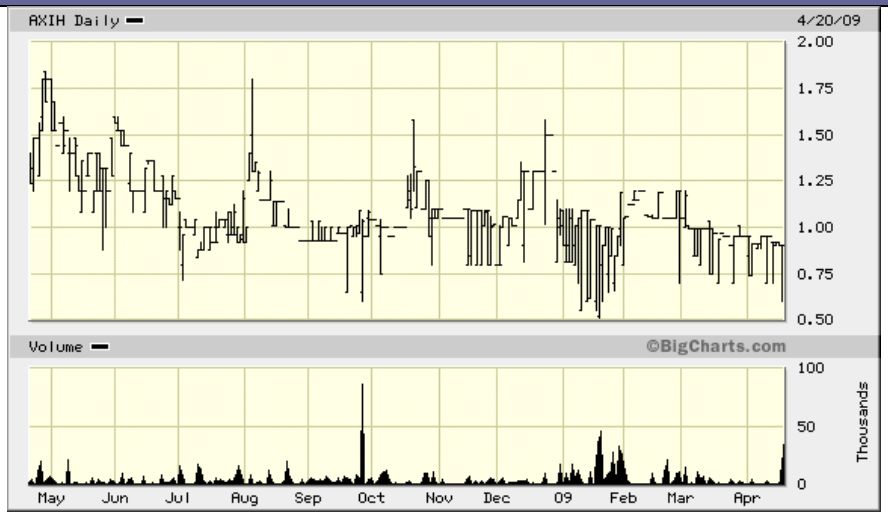
**As of 1/13/09, AXIH executives, directors and affiliates own approximately 33.8% of common shares*

AXIH Risks

As discussed in detail in AXIH's SEC filings, which should be read in conjunction with this report, the Company faces various risks, including:

- The Company has not yet generated meaningful operating revenues and may not be able to generate profits.
- The Company is dependent on the ability to raise capital from external funding sources.
- Company auditors have expressed substantial doubt about the ability to continue as a going concern.
- Company products are new and have limited acceptance in the marketplace.
- The Company's operations will be highly reliant on 3rd party manufacturers.
- The Company's ability to generate profitable operations most likely will be materially adversely affected depending on the availability and cost of the materials.
- Existing and potential competitors may have significantly greater financial, marketing and research resources.
- Company is dependent upon senior management.
- The Company may not have adequate protection for the IP rights upon which the business depends.
- Management and affiliates own enough shares to have a substantial impact on shareholder votes.
- Environmental liabilities and regulations may have an adverse effect on Company business.
- Warrants, debentures, options, preferred stock and new capital raises have the potential t dilute common shareholders.
- The Company is involved in certain legal proceedings including an action against Tonga Partners etal in which the Company was awarded a summary judgment of $4.9 million related to the disgorgement of short-swing profits. The defendants have indicated that they will appeal the order.

AXIH Historical Price Chart



AXIH Unaudited Financial Statements

AXION INTERNATIONAL HOLDINGS. INC
A DEVELOPMENT STAGE COMPANY
CONSOLIDATED BALANCE SHEET

	Unaudited December 31, 2008	Audited September 30, 2008
Assets		
Current assets:		
Cash and cash equivalents	$ 930,376	$ 138,826
Accounts Receivable	$ 4,200	$ -
Inventories	205,096	110,416
Prepaid expenses	6,903	7,264
Total current assets	1,146,575	256,506
Property, equipment, and leasehold improvements, at cost:		
Equipment	9,838	9,838
Machinery and equipment	268,125	261,425
Purchased software	56,329	56,329
Furniture and fixtures	9,322	9,322
Leasehold improvements	29,300	29,300
	372,914	366,214
Less accumulated depreciation	(36,484)	(25,609)
Net property and leasehold improvements	336,430	340,605
Long-term and intangible assets		
License, at acquisition cost,	68,284	68,284
Deposits	4,000	4,000
	72,284	72,284
Total assets	$ 1,555,289	$ 669,395
Liabilities and Stockholders' Deficit		
Current liabilities		
Accounts payable	$ 435,723	$ 35,953
Accrued liabilities	323,308	534,878
Interest payable	62,973	55,641
Accrued payroll	9,927	23,142
Total current liabilities	831,931	649,614
Senior secured convertible debenture, net of discount	342,407	307,243
Total liabilities	1,174,338	956,857
Commitments and contingencies		
Stockholders' deficit:		
Common stock, no par value; authorized, 100,000,000 shares;		
15,449,501 shares issued and outstanding	3,267,858	1,983,858
Deficit accumulated during development stage	(2,886,907)	(2,271,320)
Total stockholders' deficit	380,951	(287,462)
Total liabilities and stockholders' deficit	$ 1,555,289	$ 669,395

See accompanying notes to consolidated financial statements.

AXION INTERNATIONAL HOLDING INC.
A DEVELOPMENT STAGE COMPANY
CONSOLIDATED STATEMENT OF OPERATIONS

	Unaudited Three Months Ending December 31, 2008	Audited Period Ending September 30, 2008	From Inception November 1, 2007 to December 31, 2008
Revenue	$ 4,200	$ 6,472	$ 10,672
Cost of goods sold	$ -	$ 743	$ 743
Gross margin	4,200	5,729	9,929
Research and development costs	154,940	310,761	465,701
Marketing and sales	46,732	90,945	137,677
General and administrative expenses	355,739	1,180,169	1,535,912
Depreciation and amortization	10,875	25,609	36,484
Total operating costs and expenses	568,286	1,607,483	2,175,774
Loss from operations	(564,086)	(1,601,754)	(2,165,845)
Other expense (income), net			
Other income	-	(20,000)	(20,000)
Interest expense, net	51,496	689,566	741,062
Total other expense, net	51,496	669,566	721,062
Loss before income taxes	(615,582)	(2,271,320)	(2,886,907)
Provision for income taxes	-	-	-
Net loss	(615,582)	(2,271,320)	(2,886,907)
Weighted average common shares - basic and diluted	14,217,968	9,138,437	9,923,956
Basic and diluted net loss per share	$ (0.04)	$ (0.25)	$ (0.29)

See accompanying notes to consolidated financial statements.

AXION INTERNATIONAL HOLDING INC
A DEVELOPMENT STAGE COMPANY
CONSOLIDATED STATEMENT OF CASH FLOWS

	Unaudited Three Months ending December 31, 2008	Audited Period Ending September 30, 2008	From Inception November 1, 2007 to December 31, 2008
Cash flow from operating activities:			
Net loss	$ (615,582)	$ (2,271,320)	$ (2,886,907)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation, and amortization	10,875	25,609	36,484
Accretion of interest expense on convertible debentures	35,164	585,119	620,283
Gain on sale of assets		(20,000)	(20,000)
Issuance of common stock for accrued interest	9,000	68,806	77,806
Changes in operating assets and liabilities			
Accounts receivable	(4,200)	59,048	54,848
Inventory	(94,680)	(110,416)	(205,096)
Prepaid expenses and other	361	(5,507)	(5,146)
Accounts payable	19,809	304,929	324,743
Accrued liabilities	37,503	66,341	103,844
Net cash used in operating activities	(601,750)	(1,297,391)	(1,899,141)
Cash flows from investing activities:			
Purchase of equipment and leasehold improvements	(6,700)	(358,742)	(365,442)
Proceeds from sale of assets acquired in merger		506,000	506,000
Cost to acquire license		(48,284)	(48,284)
Net cash provided by investing activities	(6,700)	98,974	92,274
Cash flows from financing activities:			
Proceeds from short term note (net)	125,000	27,154	152,154
Issuance of common stock, net of expenses	1,275,000	1,267,077	2,542,078
Issuance of convertible debenture	-	200,000	200,000
Repayment of debenture	-	(200,000)	(200,000)
Cash acquired in reverse merger	-	43,011	43,011
Net cash provided by financing activities	1,400,000	1,337,242	2,737,243
Net increase in cash	791,550	138,826	930,376
Cash at beginning of period	138,826	-	-
Cash at end of period	$ 930,376	$ 138,826	$ 930,376
Non-cash financing activities:			
Common stock for services	$ -	$ 20,000	$ 20,000
Conversion of Debenture (Notes)	$ -	$ 890,278	$ 890,278
Common stock issued for settlement of accrued liabilities	$ -	$ 24,990	$ 24,990
Common stock issued for license agreement	$ -	$ 20,000	$ 20,000
Common stock issued pursuant to merger	$ -	$ 358,395	$ 358,395

See accompanying notes to consolidated financial statements.

MURPHY ANALYTICS DISCLOSURES AND DISCLAIMERS

This report by Murphy Analytics LLC and the Analyst (together referred to as "MA") on Axion International Holdings, Inc. (the "Company") is to be used for informational purposes only. Nothing in this report should be construed as investment advice or as an offer to buy or sell any securities. This report is based on information assumed to be reliable and accurate, but MA does not guarantee or make any representation with regard to its reliability, accuracy or completeness. MA made no attempt to independently verify the reliability, accuracy or completeness of this information utilized in the writing of this report. The opinions expressed in this report are subject to change without notice. MA accepts no liability with regard to any loss arising from any use of this report. Past performance of the Company should not be taken as an indication or guarantee of future performance, and no representation or warranty, expressed or implied, is made by MA regarding future performance. Any security discussed in this report may be deemed speculative and therefore not appropriate or suitable for all investors. This report contains statements that are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on estimates and projections made by the Company and/or by MA. These estimates and projections are derived in part on assumptions, and are not guarantees of future performance. Because future performance is quite difficult to predict, actual outcomes and results may differ materially from what is expressed or forecasted in forward-looking statements due to numerous factors. Such factors include, but are not limited to, the Company's ability to execute effectively its business plan and acquisition strategy, failure by the Company to retain key personnel, changes in the markets in which the Company operates, the development of new products and services that compete with those offered by the Company, competitive pressures, economic and political conditions, changes in consumer behavior, the introduction of competing products having technological and/or other advantages, and other risks not contemplated by the Company or by MA. These and other risks are described in the Company's filings with the Securities and Exchange Commission. These filings should be read in conjunction with the MA report. MA was paid $8,500 by the Company through Trilogy Capital Partners in advance of the publication of this report. MA assumes no responsibility to update information concerning the Company. MA owns no shares in the Company. MA does not provide investment banking services. The Analyst is employed as a research analyst for a broker/dealer that provides investment banking services. No part of the compensation to MA is tied to any content contained in this report or any view expressed in this report. The Analyst for this report Patrick J. Murphy, CFA, has 15 years of investment and transaction analysis across a range of asset classes including microcap equities, commercial real estate debt and equity, municipal derivatives and public finance, venture capital, fixed income, commercial MBS and mortgage REIT's. In addition to his work with Murphy Analytics, Mr. Murphy also provides research to a broker/dealer and serves as a consultant to a municipal derivates advisory firm. Mr. Murphy is an alumnus of the University of Notre Dame (1991), with an undergraduate degree in Economics, and earned a Masters Degree in Finance from St. Louis University in 1997. Mr. Murphy is a CFA Charterholder and a member of the CFA Society of St. Louis. I, Patrick J. Murphy, hereby certify that all views expressed in this report accurately reflect my personal views about the Company, and that no part of my compensation was or will be related to the views expressed in this report.

Overview of the OTC Bulletin Board[43]

The OTC Bulletin Board® (OTCBB) is a regulated quotation service that displays real-time quotes, last-sale prices, and volume information in over-the-counter (OTC) equity securities. An OTC equity security generally is any equity that is not listed or traded on NASDAQ® or a national securities exchange. OTCBB securities include national, regional, and foreign equity issues, warrants, units, American Depositary Receipts (ADRs), and Direct Participation Programs (DPPs). The OTCBB is a quotation medium for subscribing members, not an issuer listing service, and should not be confused with The NASDAQ Stock Market℠. There are no minimum quantitative standards which must be met by an issuer for its securities to be quoted on the OTCBB; however, the new Eligibility Rule limits quotations on the OTCBB to the securities of issuers that are current in their reports filed with the SEC or other regulatory authority. Issuers do not have any filing or reporting requirements with The NASDAQ Stock Market, Inc., or FINRA. Market Makers will be required to provide the periodic financial reports filed by OTCBB issuers with the SEC or other regulatory authorities pursuant to the Eligibility Rule. NASDAQ has no business relationship with the issuers of securities quoted on the OTCBB. Investors must contact a broker/dealer to trade OTCBB securities. Investors do not have direct access to the OTCBB service. The Securities and Exchange Commission's (SEC's) Order-Handling Rules which apply to NASDAQ-listed securities do not apply to OTCBB securities. It is important to note that FINRA has no regulatory authority over OTC Bulletin Board issuers. FINRA's responsibilities include establishing rules governing its broker/dealer members' business conduct; setting qualification standards for securities industry professionals; examining members for their financial and operational condition as well as their compliance with appropriate rules and regulations; investigating alleged violations of securities laws; disciplining violators of applicable rules and regulations; and responding to inquiries and complaints from investors and members. Due to the high level of risk involved in investing in Penny Stocks, the SEC created Rule 15g-2, which makes it "unlawful for a broker or dealer to effect a transaction in any penny stock for or with the account of a customer unless, prior to effecting such transaction, the broker or dealer has furnished to the customer a document containing the information set forth in Schedule 15G, Rule 15g-100, and has obtained from the customer a manually signed and dated written acknowledgement of receipt of the document." (SEC Rule 15g-2(a), Risk Disclosure Document Relating to the Penny Stock Market). If you believe that you have been defrauded by an OTC Bulletin Board issuer, you may file a complaint with your State Securities Regulator or contact the SEC's Office of Investor Education and Assistance.

[43] http://www.otcbb.com/investorinformation/investorinfo.stm