MPHASE TECHNOLOGIES INC
Form 10-K
September 24, 2012

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934 (NO FEE REQUIRED)

FOR THE YEAR ENDED **JUNE 30, 2012**

COMMISSION FILE NO. **000-30202**

mPHASE TECHNOLOGIES, INC.

(Name of issuer in its charter)

NEW JERSEY	**22-2287503**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
587 CONNECTICUT AVE., NORWALK,	**CT 06854-1711**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(203) 838-2741**

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT:

COMMON STOCK, $.01 PAR VALUE
(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer as defined in Rule 405 of the Securities Act.

Yes [ ] No [X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes [ ] No [X]

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for shorter period that the registrant was required to file such report), and (2) has been subject to such filing requirements for the past 90 days.

Yes [X] No [ ]

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or such shorter period that the registrant was required to submit and post such files).

Yes [ ] No [ ]

Indicate by check mark if the disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendments to the Form 10-K. [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer [ ]
Non-accelerated filer [X] Smaller reporting company [X]
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act)

Yes [ ] No [X]

As of December 31, 2011, the aggregate market value of the registrant’s common stock held by non-affiliates of the registrant was $4,993,904 the closing sale price as of that date. As of July 26, 2012, there were 4,071,051,851 shares of common stock, $.001 par value, outstanding.

Documents Incorporated by Reference

None.

ANNUAL REPORT ON FORM 10-K
FOR THE YEAR ENDED JUNE 30, 2012
TABLE OF CONTENTS

		PAGE
	PART I	
ITEM 1.	Business	4
ITEM 1A.	Risk Factors	22
ITEM 2.	Properties	33
ITEM 3.	Legal Proceedings	34
ITEM 4.	(Removed and Reserved)	
	PART II	
ITEM 5.	Market for Registrant s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	35
ITEM 6.	Selected Consolidated Financial Data	53
ITEM 7.	Management s Discussion and Analysis of Financial Condition and Results of Operations	57
ITEM 7A.	Qualitative and Quantitative Disclosures About Market Risks	63
ITEM 8.	Financial Statements and Supplementary Data	63
ITEM 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	63
ITEM 9A.	Controls and Procedures	63
ITEM 9B.	Other Information	64
	PART III	
ITEM 10.	Directors, Executive Officers and Corporate Governance	65
ITEM 11.	Executive Compensation	67
ITEM 12.	Security Ownership of Certain Beneficial Owners and Management	68
ITEM 13.	Certain Relationships and Related Transactions, and Director Independence	69
ITEM 14.	Principal Accounting Fees and Services	74
	PART IV	
ITEM 15.	Exhibits, Financial Statement Schedules	74
	Report of Independent Registered Public Accounting Firm	78
	Report of Certified Public Accountants	80
	Consolidated Financial Statements	82
	Notes to Consolidated Financial Statements	96

PART I

FORWARD-LOOKING STATEMENTS

This report contains "forward-looking statements." In some cases, you can identify forward-looking statements by terms such as "may," "intend," "might," "will," "should," "could," "would," "expect," "believe," "estimate," "predict," "potential," or the negative of these terms and similar expressions intended to identify forward-looking statements. These statements reflect the Company's current views with respect to future events and are based on assumptions and subject to risks and uncertainties. The Company discusses many of these risks and uncertainties in greater detail in Part I, Item 1A of this 10-K under the heading "Risk Factors." These risks and uncertainties may cause the Company's actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. You should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent the Company's estimates and assumptions as of the date of this report. The Company is under no duty to update any of the forward-looking statements after the date of this report to conform such statements to actual results or to changes in our expectations.

The following discussion should be read in conjunction with mPhase Technologies' financial statements and related notes included elsewhere in this report.

ITEM 1. BUSINESS

General Description of the Business

mPhase Technologies, Inc. is a publicly-held New Jersey corporation founded in 1996. The Company has approximately 23,000 shareholders and approximately 4 billion shares of common stock outstanding as of June 30, 2012. The Company's common stock is traded on the Over the Counter Bulletin Board under the ticker symbol XDSL. The Company has offices in Little Falls, New Jersey as well as Norwalk, Connecticut.

mPhase is a development-stage company specializing in developing smart surfaces using materials science engineering, nanotechnology science and the principles of microfluidics and microelectromechanical systems (MEMS). The Company develops products for both commercial and military applications. The Company's flagship product is its Smart NanoBattery providing Power On Command . The new patent pending and patented battery technology, based on the phenomenon of electrowetting, offers a unique way to store energy and manage power. Features of the Smart NanoBattery include potentially infinite shelf life, environmentally friendly design, fast ramp to power, programmable control, and direct integration with microelectronic devices. The platform technology behind the Smart NanoBattery is a porous nanostructured material used to repel and precisely control the flow of liquids. The material has a *Smart Surface* that can potentially be designed for other innovative products such as medical devices including heart pacemakers and pumping devices.

mPhase has completed a Phase II Small Business Technology Transfer Program (STTR) grant, part of the Small Business Innovation Research (SBIR) program, with the U.S. Army for continued development of a reserve Smart NanoBattery for a critical computer memory application. Such reserve battery can be activated by an electronic pulse. The Army has also successfully tested the Smart NanoBattery as an energy source activated by g forces for a guidance system for small munitions.

In a separate effort, mPhase has also developed a mechanically- activated reserve battery. As a result of a unique combination of battery and mechanical engineering, such reserve battery also has a potentially infinite shelf-life. The battery was part of the Company's pilot program for a new emergency flashlight product line that has been designed by and co-branded with Porsche Design Studio, a premiere world-class company specializing in high-end accessory products for the luxury automotive manufacturer. The Company is developing a second automotive product with Porsche Design studio.

Description of Operations

Microfluidics, MEMS, and Nanotechnology

In February of 2004, mPhase entered the business of developing new products based on materials whose properties and behavior are controlled at the micrometer and nanometer scales. (For reference, a micrometer or micron is equal one millionth (10^{-6}) of a meter and a nanometer is one billionth (10^{-9}) of a meter the scale of atoms and molecules. A human hair is approximately 50 microns in diameter, or 50,000 nanometers thick.)

The Company has expertise and capabilities in microfluidics, microelectromechanical systems (MEMS), and nanotechnology. Microfluidics refers to the behavior, precise control and manipulation of fluids that are geometrically constrained to a small, typically micrometer scale. MEMS is the integration of mechanical elements, sensors, actuators, and electronics on a common silicon substrate through microfabrication technology. Nanotechnology is the creation of functional materials, devices and systems through control of matter (atoms and molecules) on the nanometer length scale (1-100 nanometers), and exploitation of novel phenomena and properties (physical, chemical, biological, mechanical, electrical) at that length scale.

In its Smart NanoBattery, mPhase exploits the physical phenomenon of electrowetting by which a voltage is used to change the wetting properties of a liquid/solid interface at the nanometer scale. Consider water as the liquid. Through electrowetting, mPhase can change a surface from what is referred to as a hydrophobic ("water repelling") state to a hydrophilic ("water attracting") state. In the hydrophobic state, the water beads up or is repelled by the surface. In the hydrophilic state, the water spreads out or is absorbed by the surface. The ability to electronically control the wetting characteristics of a surface at the nanometer scale forms the basis of mPhase's nanotechnology operations and intellectual property portfolio.

In the Smart NanoBattery application, mPhase uses electrowetting as a new technique to activate or literally "turn on" a battery once it is ready to be used for the first time. At the heart of the Smart NanoBattery is a porous, nanostructured superhydrophic or superlyophobic membrane designed and fabricated by mPhase. The so-called superhydrophobic membrane applies to water and the superlyophobic membrane applies to nonaqueous or organic liquids such as ethanol or mineral oil. The difference between the two membrane types lies in the nanoscale architecture at the surface. By virtue of its superhydrophobic or superlyophobic character, the membrane, although porous, is able to physically separate the liquid electrolyte from the solid electrodes so that the battery remains dormant or inactive, thus providing no voltage, or current until called upon. This electrolyte-electrode separation gives the battery the feature of potentially unlimited shelf life and the benefit of being always ready when needed, which is not necessarily the case for conventional batteries. Electrowetting alters the liquid/membrane interface so that the liquid is now able to flow over the membrane's surface and rapidly move through the pores where it is able to contact the solid electrode materials located on the other side of the membrane.

mPhase uses MEMS, to precisely control the machining of silicon-based materials at the micrometer and nanometer scales. This ability has led to the Company's proprietary membrane design that controls the wetting and movement of liquids on a solid surface. mPhase uses microfluidics to control the flow of liquid electrolyte through the porous membrane and is also the basis for other possible applications such as self-cleaning surfaces, filtration and separation and liquid delivery systems.

mPhase has also developed a manually-activated lithium reserve battery using an innovative industrial and mechanically-engineered design. The battery is activated by a unique triggering mechanism that rapidly releases and distributes the liquid electrolyte held in a glass sealed reservoir inside the battery. By twisting a screw-like mechanism outside the battery the glass seal is broken and the electrolyte immediately contacts the battery's solid electrodes to produce electric power. Unlike conventional batteries that have relatively short shelf lives prior to initial use of the flashlight, the mPhase reserve battery has a shelf life of over 20 years.

History of Nanotechnology Operations

Smart NanoBattery

mPhase Technologies, along with Bell Labs, jointly conducted research from February 2004 through April of 2007 that demonstrated control and manipulation of fluids on superhydrophobic and superlyophobic surfaces to create a new type of battery or energy storage device with power management features obtained by controlling the wetting behavior of a liquid electrolyte on a solid surface. The scientific research conducted set the ground work for continued development of the Smart NanoBattery and formed a path to commercialization of the technology for a broad range of market opportunities. The Company began its efforts by entering into a $1.2 million 12 month Development Agreement in February of 2004 with the Bell Labs division of Alcatel/Lucent for exploratory research of control and manipulation of fluids on superhydrophobic surfaces to create power cells (batteries) by controlling wetting behavior of an electrolyte on nanostructured electrode surfaces. The goal was to develop a major breakthrough in battery technology creating batteries with longer shelf lives as the result of no direct electrode contact (meaning no power drain prior to activation). During 2005 and 2006, the battery team tested modifications and enhancements to the internal design of the battery to optimize its power and energy density characteristics, as well as making engineering improvements that were essential in moving the battery from a zinc-based chemistry to a commercial lithium-based chemistry that can be manufactured on a large scale. The Company extended its development effort twice for an additional 2 year period ending in March of 2007 and for two additional periods thereafter through July 31, 2007. During this time, the technical focus shifted from trying to separate the liquid electrolyte from nanostructured electrodes to developing a nanostructured membrane that could physically separate the liquid electrolyte from the solid electrodes.

mPhase also began working with the Rutgers University Energy Storage Research Group (ESRG) in July of 2005 to conduct contract research in advanced battery chemistries involving lithium. This work involved characterizing and testing materials that could be used in the mPhase battery. In July of 2007, the relationship shifted to a collaboration focused on developing a memory backup battery needed by the U.S. Army. The work was funded through a Phase I Small Business Technology Transfer Program (STTR) grant.

In July of 2007, mPhase formed a new wholly-owned subsidiary, AlwaysReady, Inc., to focus on the development of its nanotechnology products. The Company has used this subsidiary as a division of the Company in order to develop increasing brand recognition of its battery products. The Company decided in September of 2007 to transfer its development work out of Bell Labs (Alcatel/Lucent) in order to accelerate and broaden its nanotechnology product commercialization efforts. Bell Labs had engaged in its battery research and development for the Company for zinc-based batteries and was limited since it did not have facilities capable of handling lithium chemistry. mPhase has continued to work with Rutgers ESRG which has facilities capable of handling lithium based batteries and has also engaged in work with foundries and other companies to supply essential components, fabricate prototypes, and plan manufacturing approaches. These companies currently include Silex, a well-respected silicon foundry in Sweden, and

Eagle Picher, a well-known battery designer and manufacturer that focuses on high-end batteries for military applications located in Joplin, Missouri.

In February of 2008, the Company announced that a prototype of its Smart NanoBattery was successfully deployed in a gun-fired test at the Aberdeen Proving Ground at Maryland. The test was conducted by the U.S. Army Armament Research and Development and Engineering Center (ARDEC) of Picatinny, New Jersey. The battery not only survived the harsh conditions of deployment at a gravitational force in excess of 45,000 g, but was also flawlessly activated in the process.

In March of 2008, mPhase announced that it had been invited to submit a proposal for a Phase II STTR grant based upon the successful work it had performed on the Phase I grant to develop a version of the Smart NanoBattery referred to as the multi-cell, micro-array reserve battery for a critical memory backup application. The Phase II grant in the gross amount of $750,000 (net $500,000) was granted to the Company in the middle of September of 2008. In March of 2008, the Company also announced the successful transfer to a commercial foundry of certain processes critical to the manufacturing of its Smart NanoBattery. This will enable fabrication of the porous membranes for the multi-cell, micro-array reserve battery mentioned above. The Company successfully manufactured nanostructured membranes at the foundry that are essential to commercial production of the battery. By achieving a series of delayed activations, the shelf-life and continuous run-time of such battery is increased to a period of time in excess of twenty years. In April of 2008, the Company announced that it had successfully activated it first Smart NanoBattery prototype by electrowetting using a hard-wired configuration and a remotely-activated device. Remote activation plays a key role in providing power to wireless sensors systems and radio frequency identification tags.

Also, in April of 2008, the Company announced that it had successfully produced its first lithium-based reserve battery with a soft or pouch package and breakable separator (in place of the electrowettable membrane) that relies on mechanical rather than electrical activation to provide Power On Command . The Company believes this to have been a significant milestone in moving from a low energy density zinc-based battery to a higher energy density lithium-based battery towards proving that this mechanically-activated reserve battery would become economically and commercially viable.

In fiscal years ended June 30, 2009 and June 30, 2010, the Company focused upon further development of its Smart Nano Battery under a Phase II STTR grant from the U.S. Army as a potential reserve battery for a back-up computer memory application for a weapons system. The Company has recently completed such Phase II Army grant. On November 12, of 2010, the Company announced that it had successfully triggered and activated its first functional multi-cell smart nano battery. Triggering and activation of the cells of the battery were achieved by using the technique of electrowetting or programmable triggering. Triggering was accomplished by applying a pulse of electrical energy to a porous, smart surface membrane located inside each cell in the battery causing the electrolyte to come in contact with the cell s electrodes, creating the chemical reaction to produce voltage inside of the multi-cell battery. The multi-cell battery consists of a matrix of 12 individual cells populated with an electrode stack consisting of lithium and carbon monofluoride materials with each rated at 3.0 volts. Using a custom designed circuit board for testing, each of the cells in the battery were independently triggered and activated without affecting any of the non-activated cells in the multi-cell configuration. Each cell in the battery has a very long shelf-life prior to triggering.

On February 9, 2011, the Company announced that it had signed a 3 year Cooperative Research and Development Agreement (CRADA) with the U.S. Army Armament Research, Development, and Engineering Center (ARDEC) at Picatinny, New Jersey, to continue to cooperatively test and evaluate the mPhase Smart NanoBattery, including new design features functionally appropriate for DoD based systems requiring portable power sources. The army researchers are evaluating the prototypes using the Army s testing facilities at Picatinny Arsenal in New Jersey in order to determine applicability of the technology to gun fired munitions and potentially to incorporate the technologies into research and development and other programs sponsored by Picatinny. The Research Agreement is supported by the Fuze & Precision Armaments Technology Directorate.

During fiscal year ended June 30, 2011, the Company completed work on its Phase II STTR grant for the U.S. army for a nano-reserve battery for a back-up computer memory application. In addition the Company engaged First Principals, Inc to perform an evaluation or each of its patents in order to identify a strategic partner whose products line will need the Company s SmartNanoBattery as a compelling solution.

On March 6, 2012, the Company announced that it is exploring the printing of its Smart NanoBattery on graphene and other new advanced materials. Graphene is a very strong material that has been described as the most conductive material known, making it a vast improvement over silicon. Graphene has the potential to lead to faster, cheaper and more flexible devices including power sources.

Emergency Flashlight

On December 5, 2008, mPhase Technologies, Inc. signed a contract with Porsche Design Gesellschaft m.b.H., Flugplatzstrasse 29, A,S700 Zell am see, Austria ("Porsche Design Studio"), to design a premium emergency flashlight (the mPower Emergency Illuminator). A pilot program that began in March of 2010 has resulted in the sale of approximately 56 emergency flashlights. The flashlight sold in the pilot program contained mPhase s proprietary mechanically-activated lithium reserve battery. The battery contains a breakable barrier that separates the solid electrodes from the liquid electrolyte until the battery is manually activated. Unlike traditional batteries, the mPhase battery remains in an inert state with no leakage or self-discharge until activation. The mPhase battery is designed to have an almost infinite shelf life making it ideal for emergency lighting applications. The premium flashlight will be marketed as an accessory for automobile roadside emergency kits.

On January 29, 2009, the Company announced that it had contracted with EaglePicher Technologies to design and manufacture, in small quantities, its mechanically-activated battery that were used in the pilot program of sales of the Company s new Emergency Flashlight. EaglePicher was selected for the pr0oject because of their experience in custom and standardized power solutions for the extreme environments of aerospace and military applications as well as medical and commercial applications.

The reserve battery is a manually activated lithium cell designed to provide Power On Command. The battery remains dormant until turned on by the user. It is built to the highest standards with a minimum storage life of 20 years. Once activated, the reserve battery is expected to deliver the electrical performance of a standard primary CR123 battery used in many portable electronic applications today.

EaglePicher Technologies, LLC, along with EaglePicher Company, is a world leader in custom and standardized power solutions for the extreme environments of aerospace and military applications as well as medical and commercial applications. The company specializes in design and manufacture of battery cells, battery packaging, battery management systems (BMS), analysis, environmental testing, and energetic devices. Active in battery development and testing since 1922, EaglePicher Technologies has the most experience and broadest capability in battery electrochemistry of any battery supplier.

Owing to cost considerations, the Company has decided to utilize a cost reduced active-reserve battery in its current version of its emergency flashlight product for potential sales after the pilot program. Such active reserve battery also has a very long shelf life and enables the Company to significantly reduce the selling price of the Emergency Flashlight. In March 2011, the Company received an initial order from Porsche Design Group in Germany for mPhase's Porsche design branded mPower Emergency illuminators to be sold in Porsche Design stores in Germany, Great Britain and the United States and it began shipments of the Emergency Illuminators in April of 2011.

Magnetometer

In March of 2005, the Company entered into a second Development Agreement for 12 months at a cost of $1.2 million per annum with the Bell Labs to develop MEMS-based ultrasensitive magnetic sensor devices, also known as magnetometers, that could be used in military and commercial electronics (*e.g.,* cell phones) for determining location, as well as in portable security and metal detection applications. The agreement was renewed in April of 2006 for another 12 months on the same terms. Although proven to work in the lab, the magnetometer technology could not be scaled up as quickly and as cost effectively as the battery. The project was suspended in September 2007 so that all technical resources could be allocated to the battery project. The Company is entitled to certain royalties from the magnetometer if Alcatel/Lucent ultimately generates revenues from the product.

DISCONTINUED BUSINESS-Internet Protocol Television (IPTV)

Historically, the Company, since its inception, had focused upon developing innovative solutions for the delivery of Broadcast Television as part of a "triple play" of services that would include voice and high-speed internet for telephone service providers globally. The Company, however, has not been able to derive any significant revenue from its TV+ solution and no active development of the product has occurred since fiscal year 2007. The Company determined to discontinue this line of business and all inventory has been written off. During the fourth quarter of the fiscal year ended June 30, 2010, the Company formally elected, for financial reporting purposes to treat its IPTV product line as a discontinued business.

Nanotechnology Products

Platform Technology

The surface is an important part of virtually every physical object and often plays an overriding role in many processes, beyond mere connectivity and structural support, but more deeply into areas involving chemical and biological interactions. In some instances, the surface provides an easy entry into the chemical or biological systems; in others it protects the internal elements of the object, surrounded by the surfaces.

mPhase's current flagship platform technology is the *Smart Surface*. By being able to control the surface properties of materials down to the nanometer scale, new and improved devices can be designed and built that may lead to compelling business opportunities. One type of smart surface of particular interest allows properties to be changed in response to an external stimulus.

Initially, mPhase's development focused on MEMS devices by manipulating the surface of silicon materials the same material used to make microelectronic materials and devices. Using physical and chemical processes, the surface of the silicon is modified to make solid porous structures known as membranes. This is where microfluidics comes into play. These membranes can be used to selectively control the flow of liquids through the pores or openings at the micrometer length scale.

Surfaces may be characterized as *hydrophilic* or *hydrophobic* depending on whether or not they attract or repel water (or other liquids). A hydrophilic surface can be wet and adsorbs water. A hydrophobic surface, on the other hand, cannot be wet. Hydrophilic and hydrophobic surfaces are abundant in nature and in synthetic materials, both organic and inorganic in chemical composition. A familiar example of a hydrophilic surface is a sponge that readily soaks up water. By contrast, many plant leaves and flower petals are hydrophobic, as are insect parts and bird feathers. Synthetic hydrophobic surfaces include Scotchgard treated fabric, Teflon® coated metal, or Rain-X® coated glass. On a hydrophobic surface, water beads up and can move around without being absorbed by the solid material that it is resting on.

So-called *superhydrophobic* surfaces are also found in nature and can now be replicated in the lab. The lotus leaf and rose petal, for example, exhibit superhydrophobicity. Here water droplets form almost perfect spheres with hardly any contact with the underlying solid surface. This makes the liquid even easier to move and manipulate.

The synthesis of superhydrophobic surfaces has recently been made possible by advances in nanotechnology and mPhase is leading the way to better understand and create materials and devices incorporating these unique surface properties.

As mPhase's research and development efforts evolve, in addition to silicon materials, the ability to control the surface properties of materials can be extended to other substances such as polymers, ceramics, metals, and fibers, as examples, providing opportunities for our platform technology to be used in a range of potential applications such as energy storage and power management for portable electronics and microelectronics, self-cleaning surfaces, filters for water purification or desalination systems, materials for environmental remediation that separate liquids or solvents, and other situations where the control of the interaction of a solid surface exposed to a liquid is vitally important.

Smart NanoBattery

Battery technology has changed little in its fundamentals over the past 150 years. As a result, ordinary batteries begin dissipating energy as soon as they are assembled and therefore have limited shelf life. Chemistries are fixed inside the package so the user cannot interact with the contents to program functionality. The size and form of batteries have not kept pace with the miniaturization of electrical components, microprocessors and integrated circuits. As a result, the optimal implementation of an electronic device is not always achieved. Some batteries contain chemicals that are not considered safe or environmentally friendly ("green"). This makes disposal a potential issue.

mPhase is challenging this convention by using their proprietary superhydrophobic porous silicon membrane technology as the basis to build the Smart NanoBattery providing Power On Command .

Superhydrophobicity initially keeps the liquid electrolyte physically separated from the solid electrodes of the battery, thus preventing the chemical reactions from occurring that cause the battery to provide power. This gives the Smart NanoBattery the benefit of potentially infinite shelf life.

A conventional battery loses some capacity while sitting on the shelf in its package or stored in an electronic or electrical device, even before being used for the first time. On the other hand, the Smart NanoBattery is built so that it is inactive and remains that way indefinitely until it is turned on. No power is lost to self-discharge or leakage current prior to activation. When needed, the Smart NanoBattery can be activated on command via the phenomenon of electrowetting. The surface properties of the porous silicon membrane are selectively controlled to shift instantly from

a superhydrophobic to hydrophilic state. In other words, electrowetting acts as the triggering mechanism.

mPhase has successfully fabricated and demonstrated its first 3-volt lithium-based Smart NanoBattery, based on a design allowing either manual or remote activation by the user, the feature known as Power on Command .

By incorporating the phenomenon of electrowetting on nanostructured surfaces into a revolutionary way of storing energy, the Smart NanoBattery provides power to portable electronic and microelectronic devices exactly when and where it is needed. It is an alternative and an augmentation to conventional batteries, still converting stored chemical energy into usable electrical energy, but in a way that is potentially more reliable, more versatile, more environmentally friendly, and less expensive than the industry norm.

Applications

mPhase is exploring military and commercial applications of smart surfaces in which the properties can be accurately and precisely controlled down to the nanometer scale. Electrowetting allows the switching from a hydrophobic to hydrophilic state as a result of an electronic stimulus.

The Smart NanoBattery, mPhase's first smart surface product, has a unique architecture that enables a shelf life of decades, remote activation, programmable control, scalable manufacturing, and adaptability to multiple configurations. The value proposition to the end user is to have a source of energy or power that is literally always ready - reliable, convenient, low cost - a battery guaranteed to work at full capacity when and where you need it.

The Smart NanoBattery can conceivably supply power "*on command"* to a wide variety of portable electronic and microelectronic devices used in military, medical, industrial, and consumer applications.

mPhase has demonstrated that the battery works in lab tests as well as in a significant field test conducted for the U.S. Army as part of a guided munitions project. The relationship with the Army also included an $850,000 funded project to develop a battery for a mission critical computer memory backup application. The target was a small footprint, 3-volt lithium battery with a minimum shelf life of 20 years and uninterruptible power output during this time period. No other battery technology available today can deliver the long-term performance requirements specified by the U.S. Army for this application.

The Smart NanoBattery can potentially be designed to accommodate a variety of sophisticated portable electronic and microelectronic devices including next-generation cell phones, handheld gaming devices, wireless sensor systems, radio frequency identification tags, high-tech flashlights and beacons, health alert alarms, and non-implantable and implantable medical devices such as pacemakers.

Initial applications will address the need to supply emergency and backup power to a range of products for defense and security, with future applications in the commercial and consumer arenas.

Other Potential Products

The Company has been in active discussions with Picatinny Arsenal, Picatinny, New Jersey to jointly obtain federal funding under SBIR grants to develop additional new products for military small munitions applications. The Company has a strong historic cooperative relationship for product development and testing.

In 2007 the Company entered into a Cooperative Research and Development Agreement (CRADA) with Picatinny Arsenal to test the single cell version of the Smart NanoBattery suitable for future research and development programs for projectile launched munitions. From 2007 through the first quarter of calendar year 2010, numerous internal laboratory air gun simulation tests were performed, including a live-air gun and live gun fired test at the United States Army s facility at Aberdeen Proving Grounds, Aberdeen, Maryland. A prototype of the Smart NanoBattery was the subject of a live fire test as part of a projectile fired out of an Abrams Tank. The results of the test indicated that the battery was activated by 10,000 G forces indicating that it could supply energy necessary to operate a guidance system for small munitions. In addition, the Smart NanoBattery demonstrated extreme resiliency to shock and acceleration since, it survived tests that subjected it to high acceleration of over 30,000 G forces.

On February 9, 2011, the Company announced that it had signed a 3 year CRADA with the U.S. Army Armament Research, Development, and Engineering Center (ARDEC) at Picatinny, New Jersey, to continue to cooperatively test and evaluate the mPhase Smart NanoBattery, including new design features functionally appropriate for DoD based systems requiring portable power sources. The army researchers are evaluating the prototypes using the Army s testing facilities at Picatinny Arsenal in New Jersey in order to determine applicability of the technology to gun fired munitions and potentially to incorporate the technologies into research and development and other programs

sponsored by Picatinny. The Research Agreement is supported by the Fuze & Precision Armaments Technology Directorate.

BUSINESS OF THE COMPANY

Business Development, Organization, and Acquisition Activities

mPhase was incorporated in New Jersey in 1979 under the name Tecma Laboratory, Inc. In 1987, the Company changed its name to Tecma Laboratories, Inc. As Tecma Laboratories, Inc., the Company was primarily engaged in the research, development and exploration of products in the skin care field. On February 17, 1997, the Company acquired Lightpaths, Inc., a Delaware corporation, which was engaged in the development of telecommunications products incorporating DSL technology, and the Company changed its name to Lightpaths TP Technologies, Inc.

On January 29, 1997, the Company formed another wholly-owned subsidiary called TLI Industries, Inc. The shares of TLI were spun off to its stockholders on March 31, 1997 after the Company transferred the assets and liabilities, including primarily fixed assets, patents and shareholder loans related to the prior business of Tecma Laboratories. As a consequence of these transactions, the Company became the holding company of its wholly-owned subsidiary, Lightpaths, Inc., on February 17, 1997.

On May 5, 1997, the Company completed a reverse merger with Lightpaths TP Technologies, Inc. and thereafter changed its name to mPhase Technologies, Inc. on June 2, 1997.

From June of 1997-December of 2007, the Company s main business was the development and sale of telecommunication products and equipment and middleware products for the delivery of television by telephone service providers. This business was formally discontinued by the Company for financial reporting as of June 30, 2010.

Effective February 3, 2004, the Company entered into a Development Agreement with the Bell Laboratories division of Lucent Technologies, Inc. for the development of micro power source arrays fabricated using nano textured super hydrophobic materials.

Effective March 5, 2005, the Company extended its Development Agreement with Bell Labs for an additional 12 months for the development of micro power source arrays fabricated using nano textured super hydrophobic materials.

Effective March 10, 2005, the Company entered into a Development Agreement with Bell Labs for the development of a new generation of magnetic field sensors using the science of nanotechnology.

In April of 2006, the Company renewed each of the nanotechnology Development Agreements will Bell Labs dated March 5, 2005 and March 10, 2005 respectively for an additional 12 months at the cost of $100,000 per month for each agreement.

On February 3, 2007, the Company entered into Amendment No. 4 to a Development Agreement effective February 3, 2004, with Lucent Technologies, Inc. extending research and development through April 27, 2007, relating to micro-power source arrays fabricated using nano-textured superhydrophobic materials.

On February 17, 2007, the Company extended a Cooperative Research Agreement through December 31, 2007, originally entered into on July 15, 2005, with Rutgers, The State University of New Jersey governing cooperative research on a lithium nanostructured reserve battery.

On April 28, 2007, the Company extended its Development Agreement with Lucent Technologies relating to micro-power source arrays fabricated using nano-textured superhydrophobic materials originally entered into in February of 2004 with Amendment #5 through July 31, 2007.

On May 10, 2007, the Company entered into a Consulting Agreement with CT NanoBusiness Alliance to produce a report and assist the Company with respect to its strategy for development and marketing of its nano power cell product.

On July 18, 2007, the Company announced the award of a Phase I US Army Small Business Technology Transfer (STTR) Program Grant. This award was a Phase I six month research effort to develop a 30 plus year shelf life, low power, green battery (coin cell or similar) that would continuously power a static random access memory circuit for a computer device. SRAM is a common type of digital memory chip used in a wide variety of electronic systems for data storage. During the six month research period, the team was to characterize the design, conduct capacity and stability measurements of a reserve style power cell based on Lithium chemistry. Long term stability and shelf life is achieved by initially separating the active materials of the power cell during storage, and controlling the activation of the cell until needed to provide power. This research program extended the design of the company's smart battery to support the use of non-water based electrolytes that are commonly used in lithium based batteries. Lithium batteries are favored for powering many different types of electronic devices due to their higher voltage and power requirements than can be supplied by more common alkaline batteries. The Phase I grant, valued at $100,000, enabled the Company to competitively compete for a Phase II award as an avenue used by U.S. government defense agencies to adopt advanced technology for commercialization and use. Rutgers University supported the Company and its newly formed subsidiary, AlwaysReady, Inc., during the award period as a subcontractor under the award guidelines.

On October 19, 2007, the Company announced that in connection with the settlement and dismissal of a civil law suit originally filed on November 16, 2005 by the Securities and Exchange Commission in the Federal District Court in the District of Connecticut, the SEC issued a Cease and Desist Order and certain remedial sanctions against two officers of mPhase Technologies, Inc. (the "Company"). The civil suit was filed against Packetport.com, Inc. a Nevada corporation, Microphase Corporation, a Connecticut corporation that provides administrative services to the Company and shares common management with the Company, and others. The two officers of the Company were Mr. Ronald A. Durando, President and Chief Executive Officer and Mr. Gustave T. Dotoli, the Chief Operating Officer. The civil suit by the SEC named as respondents Mr. Durando, Mr. Dotoli and others in connection with their activities as officers and directors of Packetport.com. The cease and desist order from the SEC found that (1) all parties had violated Section 5 of the Securities Act of 1933, as making unregistered offers or sales of Packetport.com common stock, (2) Mr. Durando and Mr. Dotoli had violated Section 16(a) of the Securities Exchange Act of 1934, as amended, and Rule 16(a) thereunder by failing to timely disclose the acquisition of their holdings on Form 3's, and (3) Mr. Durando had violated Section 13(d) of the Securities Exchange Act of 1934, as amended, for failing to disclose the acquisition of more than five percent of the stock of Packetport.com. Under the order Mr. Durando was required to disgorge $150,000 and Mr. Dotoli was required to disgorge $100,000. The Company was not named as a party to the civil suit. More information regarding the detailed terms of the settlement can be found in SEC release No 8858 dated October 18, 2007 promulgated under the Securities Act of 1933 and SEC Release No. 56672 dated October 18, 2007 promulgated pursuant to the Securities Exchange Act of 1934. Mr. Durando and Mr. Dotoli have continued to serve as officers and directors of the Company. Mr Durando and Mr. Dotoli together with Microphase corporation and others, without admitting or denying the findings of the SEC, except as to jurisdiction and subject matter, have consented to the entry of the Order Instituting Cease and Desist Proceedings, Making Findings and Imposing a Cease and Desist Order and Remedial Sanctions pursuant to Section 8A of the Securities Exchange Act of 1933 and Section 21C of the Securities Exchange Act of 1934.

On February 20, 2008, the Company announced that a prototype of its smart reserve nanobattery was successfully deployed and activated by the resulting g-force in a gun-fired test at the Aberdeen Proving Grounds in Maryland. The test was conducted by the U.S. Army Armament Research, Development, and Engineering Center (ARDEC) of Picatinny New Jersey. In this test, the AlwaysReady battery delivered power to the test load inside the standard military anti-tank round (M830A1 or HEAT-High Explosive Anti-Tank) and demonstrated extreme resiliency, surviving the harsh environment as well as the high acceleration at a g-force in excess of 45,000 (one "g" is equal to the pull of gravity at sea level). The gun-fired test was part of a prototype evaluation process that the U.S. Army was conducting as part of its CRADA (Cooperative Research and Development Agreement). The Company's Engineers collaborated with those at Picatinny involved in the development of precision guidance components to successfully package this reserve electrochemical storage system to operate during the gun-firing and flight environment of a very high "g" round. The developmental qualification work, prior to the live test firing, was performed using Picatinny's air gun test facilities by subjecting battery prototypes to various launch accelerations and various design iterations. The test validated the performance of the AlwaysReady battery with a current armament used by the Army. The Company stated that its goal was to potentially incorporate this battery technology into smart, gun-fired munitions programs being developed by Picatinny.

On May 2, 2008, the Company announced that it had produced its first lithium-based battery that can be manually activated by providing power on command with a significantly longer shelf life prior to initial activation than those found in other batteries. The battery can be activated by command wirelessly from a remote location by a radio frequency signal giving it added mobility for sensor and similar applications.

On September 9, 2008, the Company announced that it had been awarded a Phase II Small Business Technology Transfer Program (STTR) grant, part of the Small Business Innovation Research (SBIR) program, from the U.S. Army for continued development of a reserve Smart NanoBattery for a critical computer memory application.

On September 17, 2008, the Company announced that its breakthrough research in microfluidics on understanding how micro- and nanostructured surfaces could be engineered to have properties for repelling water and other types of

liquids could potentially be used in consumer applications to enable self-cleaning surfaces such as shower doors or windows and other materials used in self-cleaning systems.

On September 23, 2008, the Company announced that it had produced compact reserve lithium battery prototypes with a manually activated breakable separator capable of powering a high-intensity emergency flashlight for more than two hours continuously at full brightness. The work was done in conjunction with Eagle Picher, a respected battery design and development firm located in Joplin, Missouri. mPhase stated that it was pursuing the concept of using a reserve battery with a breakable separator in a high-intensity emergency flashlight either as the primary power supply or as a reliable source of backup power. Cylindrical and planar battery and flashlight designs are possible. These flashlights may be equipped with either a krypton bulb or light emitting diode (LED), the choice depending on the required brightness and runtime characteristics. A manually activated breakable separator technology has been created that is analogous to that of the AlwaysReady Smart NanoBattery with the patented electrowettable membrane, both of which keep the liquid electrolyte separate from the solid electrodes until the battery is actually needed. This provides a battery with potentially infinite shelf-life that will not lose power while sitting on the shelf or in storage. Whereas the electrowettable membrane is activated by applying a voltage at the interface between the liquid and membrane surface, the breakable separator is manually activated through a well-defined physical force. The result in both cases is that the liquid electrolyte mixes with the solid electrodes, thus releasing the stored energy and 3 volts of power when lithium chemistry is employed.

On December 5, 2008, the Company announced that it had signed a contract with Porsche Design Gesellschaft m.b.H., Flugplatzstrasse 29, A,S700 Zell am see, Austria ["Porsche Design Studio"], to design a premium version of the AlwaysReady emergency flashlight. The flashlight was to use mPhase's proprietary lithium reserve battery. The battery contains a breakable barrier that separates the solid electrodes from the liquid electrolyte until the battery is manually activated. Unlike traditional batteries, the mPhase battery remains in an inert state with no leakage or self-discharge until activation. The mPhase battery was designed to have an almost infinite shelf life making it ideal for emergency lighting applications. The premium flashlight was to be marketed as an accessory for automobile roadside emergency kits.

On January 15, 2009, the Company announced that its Smart NanoBattery being developed pursuant to a Phase II Army Grant for a critical mission computer backup reserve battery may also have wider application for unattended electronic ground sensors that provide mission critical information for military operatives.

On January 29, 2009, the Company announced that it had contracted EaglePicher Technologies to manufacture the reserve battery for use in its emergency flashlight. EaglePicher was selected for the project because of their experience in custom and standardized power solutions for the extreme environments of aerospace and military applications as well as medical and commercial applications.

On March 18, 2009, the Company announced that it had received the first working model for the emergency flashlight from the Porsche Design Studio in Zell am See, Austria, representing a major step forward as the Company prepared for the initial product launch.

On June 23, 2009, the Company announced that it had achieved a major milestone in the development of its Smart NanoBattery Technology. mPhase reported that it had successfully manufactured a six-inch silicon-based wafer containing its key membrane (separator) technology. This separator is responsible for keeping the Smart NanoBattery's chemicals separated until activated. The membrane's unique surface and structure allows for control of a liquid on a nanostructured surface.

On August 5, 2009, the Company announced that it had completed the first functional prototype of its lithium reserve battery intended for use in the Company's emergency flashlight. The prototype is the first time the mPhase battery technology had come together in a "ready for production" prototype. The mPhase lithium reserve battery stores energy until it is literally "turned on." It is manually activated by a unique triggering mechanism that rapidly releases and distributes the liquid electrolyte inside the battery. The electrolyte immediately contacts the solid electrode materials to produce 3 volts. The reserve battery is designed for backup power and emergency applications. With a shelf life of over 20 years, the mPhase lithium reserve battery allows the emergency flashlight to function as a reliable emergency light source in countless situations.

On August 6, 2009, the Company announced that it had completed the first fully functional prototype of its emergency flashlight. A world renowned automobile design firm created a sleek design to accompany the flashlight's unparalleled functionality. The new illuminator features mPhase's first reserve battery that allows for backup power to be always ready through a simple activation method.

On August 27, 2009, the Company announced that its Phase II grant from the United States Army had been renewed for a second year.

On November 2, 2009, the Company reported that it had been granted a United States patent for its concept for a battery that is safer for the environment in that it is based on the idea of neutralizing the harmful chemistry inside the battery by dispensing a neutralizing agent or containment polymer located inside the battery fixture and dispensed once the battery is depleted. This reduces the risk of potentially harmful chemicals leaking through the battery container and polluting the ground or air after the battery has been discarded.

On March 9, 2010, the Company announced that its mPower On Command Reserve Battery had successfully met all United Nations/US Department of Transportation safety standards and had received UN DOT certification for the safe transport of lithium-containing batteries. Certification required successful passage of eight tests, altitude, thermal, vibration, shock, impact, overcharge, forced discharge, and external short circuit.

On May 14, 2010, the Company announced that both its mPower Emergency Illuminator and the Power On Command reserve battery technology passed a series of rigorous tests necessary to qualify for CE marking. The CE mark certifies that a product has met European Union consumer safety requirements and allows both products to be sold in the European Economic Area, which includes members and non-members of the European Union.

On June 14, 2010, the Company reported that it had been granted a United States patent for the concept of the porous membrane made from silicon that is capable of controlling the flow of a wide range of liquids, including electrolytes, used in both primary and rechargeable batteries. This is the concept used in the development of the Company s Smart NanoBattery. The issued patent is jointly held between the Company and Alcatel Lucent and is based on a prior cooperative research and development agreement between the two companies.

On July 31, 2010, the Company announced that its scalable smart reserve cell technology is one of the items included in the Fiscal Year 2011 Defense Appropriations Bill that was passed out of subcommittee by the U.S. House of Representatives to receive approximately $2,500,000 in federal funding.

On August 25, 2010, the Company announced that it signed a representative agreement with Tritech Lt. of Hod HaSharon, Israel, a leading stocking representative and distributor of major manufacturers of electronic components serving the Military, Communication, Medical, Industrial Control and Security Industries to promote the Company s products exclusively in Israel.

On November 9, 2010, the Company announced that it has successfully assembled its first functional multi-cell Smart NanoBattery This was achieved by bonding an electrolyte reservoir to mPhase's patented, porous, silicon based smart surface. The combined multi-cell reservoir and honeycomb porous smart surface assembly is then bonded to a glass and silicon electrode assembly and populated with the electrode stacks consisting of lithium and carbon monofluoride materials (Li/CFx). Fully assembled units are then filled with the electrolyte and sealed, making them air tight. They are finally attached to special circuit boards for testing and characterization studies, which will include triggering and activation of each of the independent battery cells via a technique called electrowetting, which gives the mPhase reserve battery one of its key attributes -- programmable triggering. Because of the unique design of the multi-cell battery, each cell in the battery has very long shelf until it is triggered. The development of the Smart NanoBattery has been undertaken with funding support from a Phase II STTR Army award.

On November 10, 2010, the Company announced that it is developing a second new automotive product with a major European automobile manufacturer that is based on advanced battery technology and that work on the first prototype of the product commenced. A feasibility study was concluded and the product is expected to have broad appeal to both the OEM and aftermarket automobile industry

On November 11, 2010, the Company announced that it has completed the engineering and safety testing of a new Active Reserve Battery for its award winning mPower Emergency Illuminator . The new battery features a military-style housing with active Lithium-Manganese Dioxide (Li-Mn02). The battery provides up to 20 years of shelf life under normal operating temperatures and replaces our first Reserve Battery technology featured in the successful pilot run of the mPower Emergency Illuminator . The new Active Reserve Battery (illustration included) acts as a direct replacement for the Company s first twist to activate Reserve Battery and is available for sale on the mPower website for $29.99 USD. Included is the specification sheet for the new mPower On Command Active Reserve Battery.

mPower On Command Active Reserve Battery Specifications

- Nickel Plated Steel Air Tight Cylindrical Can
- Voltage Range 1.5V to 3.3V
- Average Voltage 3V
- Nominal Capacity 3.2 Ah @ 100mA to 2V @ 23 degrees C
- Max discharge 1.5A continuous

- Pulse Capacity up to 2.0A varies according to pulse characteristics, temperature, cell history and the application
- Operating Temp -40 degrees C to 72 degrees C
- Storage Temp -40 degrees C to 95 degrees C
- Nominal dimensions of case: L 2.56" x D 0.730" (L 65mm x D 18.6mm)
- Weight: 1.65 oz (41.3 grams)
- Insulating Red Protective Cap

- A hermetic glass to metal seal that ensures up to 20-year shelf life
- Active Reserve Battery chemistry: Lithium-Manganese Dioxide (Li-Mn02)
- Weight of metallic lithium in each battery: Approximately 1.10 grams of lithium

Complies with both US and EU safety regulations

On November 12, 2010, the Company reported that it had successfully triggered and activated its first functional multi-cell Smart NanoBattery, achieved by applying a brief pulse of electrical energy to a porous, smart surface membrane, located inside each cell in the battery, which caused the electrolyte to come in contact with the cell's electrodes, creating the chemical reaction to produce voltage inside the cell of the multi-cell battery. The mPhase multi-cell battery consists of a matrix of 12 individual cells populated with an electrode stack consisting of lithium and carbon monofluoride materials (Li/CFx), with each cells rated at 3.0 volts. Using a specially designed circuit board for testing and characterization studies, each of the cells in the battery were independently triggered and activated without affecting any of the non-activated cells in the multi-cell configuration. Because of the unique design of the multi-cell battery, each cell in the battery has very long shelf until it is triggered.

On December 8, 2010, the Company announced that it has successfully completed the technical work under the Phase 2 STTR grant awarded by the US Army for the multi-cell Smart NanoBattery. The team achieved this milestone by completing the work sponsored by the Army Research Office, which encourages deep technical exploration, by funding small business involved in innovative research projects for miniature energy storage designs, by helping accelerate research and development concepts for long term commercialization efforts. The STTR funding enabled the mPhase technical team to develop functional prototypes and to conduct detailed analysis of the novel multi-cell reserve battery designs. The funding allowed the mPhase team to create a substantial IP portfolio and to achieve a Technical Readiness Level (TRL level) 4/5, which conventionally means that the original Smart Nanobattery design and technology used in its implementation progressed to the extent that they now meet the criteria for prototype testing in both laboratory and simulated deployment environments. The completed Smart Nanobattery is based on a complex MEMS device consisting of layers of silicon and glass fabricated to the exact specifications of the mPhase team by its commercial foundry partner. The mPhase team finished the assembly by populating each battery with the electrode stacks of lithium and carbon monofluoride materials (Li/CFx),that delivered 3 volts per cell. Because of the unique design of the multi-cell battery, each cell in the battery has very long shelf until it is activated via a technique called electrowetting, which gives the mPhase reserve battery one of its key attributes -- programmable triggering. The development of the Smart NanoBattery has been undertaken with funding support from a Phase II STTR Army award.

On February 9, 2011, the Company announced that it signed a 3 year CRADA (Cooperative Research and Development Agreement) with the U.S. Army Armament Research, Development, and Engineering Center (ARDEC) at Picatinny, New Jersey, to continue to cooperatively test and evaluate the mPhase Smart NanoBattery, including new design features and functionally appropriate for DoD based systems requiring portable power sources. The army researchers would further evaluate the prototypes using the Army's testing facilities at Picatinny Arsenal in New Jersey in order to potentially incorporate the technologies into research and development and other programs sponsored by Picatinny.

On April 5, 2011, the Company announced that it has begun to ship branded orders of its award winning Emergency Illuminator to a luxury-design firm based in Europe. The Emergency Illuminator is a precision instrument with a powerful 180 Lumens LED and two separate battery tubes. One tube is for everyday use and holds two CR123 batteries, while the other tube holds mPhase's Power On Command active reserve battery. If the regular CR123 batteries run down, the active reserve battery takes over -- even after laying idle for 20 years. The Emergency Illuminator also features a USB port that can be used for charging portable devices such as a cell phone.

On May 20, 2011, the Company reported that it had been granted a United States patent for the unique concept of a smart battery design that could contain different battery chemistries within the same battery configuration or battery

pack. The techniques described in the patent are based on the idea of creating individual cells within a battery system, where each cell could contain a custom combination of electrolyte and electrode materials. The patent describes how individual cells in a battery could be activated based on conditions such as the surrounding temperatures or other conditions such as power drain requirements, which can be used in determining which cells in the battery to activate. The concepts behind this patent could be used to create a new type of reserve battery that would work in a wide range of applications, such as electronic devices and sensors used in very high and low temperature environments, where the temperature conditions may change over time, or in other environments where optimal battery performance is not easily achieved based on a single non optimized battery chemistry.

On June 15, 2011, the Company announced that it had engaged First Principals, Inc. (FPI), a world-class technology appraisal and commercialization enterprise located in Cleveland, Ohio, to perform a complete economic and strategic evaluation of mPhase's Patent Portfolio and identify a broad array of potential innovative products for "smart surfaces." In addition, FPI is to assist the Company in identifying strategic partners leading to additional commercialization applications and opportunities with respect to its Smart NanoBattery.

On June 29, 2011, the Company received approval from its shareholders at a Special Meeting of Shareholders to amend the Company s Articles of Incorporation to increase the Company s authorized shares of common stock from 2 billion to 6 billion shares.

On October 19, 2011 the Company announced that an independent patent valuation of its technology estimates a minimum valuation of $40 million for its portfolio of patents and intellectual property. The technical study of the Company's intellectual property commenced in June of 2011 and was performed by FIRST PRINCIPALS, INC., a world-class technology appraisal and commercialization firm located in Cleveland, Ohio.

On November 28, 2011 the Company amended the par value of its common stock from $.01 to $.001, the Balance Sheet at June 30, 2011 was restated to reflect this change with a reduction of $14,656,520 to the value of common stock and a corresponding increase to additional paid in capital for the same amount. Transactions recorded in the Consolidated Statement of Changes in Stockholders Deficit were presented at the $.001 par value for the Fiscal Year Ended June 30, 2012.

On February 11, 2012, the Company announced that it had filed a new patent based upon its Smart Surface technology for a novel drug delivery system. The drug delivery patent is based on the ability of mPhases s Smart Surface technology to electronically control the precise flow of a fluid on a nano-structured surface.

On February 14, 2012, the Company announced that it was enhancing its patent portfolio for products beyond reserve battery applications. The core of the portfolio is the unique architecture relating to its Smart NanoBattery that enables a shelf life of decades, remote activation, programmable control and adaptability to multiple chemistries within the same container. These attributes which are developed by the Company s focus on Smart Surfaces lend themselves to potential applications in the areas of medical devices and portable electronic applications.

During the first three quarters of the fiscal year ended June 30, 2012, the Company attempted to acquire Energy Innovative Products, (EIP) a privately-held company that is a developer of proprietary technologies for reducing energy usage in refrigeration and cooling systems with both commercial and consumer applications. The transaction was terminated in February of 2012 by EIP prior to the Company completing its due diligence review of EIP s assets, patents contracts and other necessary records. The Company is entitled to a breakage fees and restitution of certain monies advanced to EIP during the due diligence period and is seeking to determine the solvency of EIP and enforce certain contractual remedies under an Amended Letter of Intent.

On March 6, 2012, the Company announced that it is exploring the printing of its Smart NanoBattery on graphene and other new advanced materials. Graphene is a very strong material that has been described as the most conductive material known, making it a vast improvement over silicon. Graphene has the potential to lead to faster, cheaper and more flexible devices including power sources.

In March of 2012, the Company accepted an invitation to visit a Cluster of International Technology research and development in Grenoble, France. The Cluster is made up on multinational companies and sponsored by various agencies of the French Government to perform advanced technology research is the area of energy storage devices, micro fluidics and nanotechnology. The Company is continuing exploratory negotiations with potential strategic partners each of which is a member of the cluster to custom tailor its intellectual property and component products for use in a commercial end product.

On June 6, 2012, the Company announced that negotiations with two creditors have led to a standstill agreement and restructuring of approximately $1,500,000 in floating rate convertible securities into 8% fixed rate debt instruments with payments commencing on October 1, 2012 at an aggregate amount of approximately $70,000 per month for two years The beneficial effect of restructuring of the variable convertibility feature should give the Company the control it needs to cease the automatic dilution outside of the Company s control of its issued and outstanding common stock. The debt restructuring should allow the company the flexibility it needs to obtain other funding.

During fiscal year ended June 30, 2012 the Company announced that it had successfully completed a prototype of a new automotive and marine product designed by a premiere European automotive company of luxury cars. A series of prototypes has resulted in a significant reduction in size and increased functionality of the product. The Company believes that the small footprint and distinguished designed may have significant appeal to both original equipment manufacturers and the automotive and marine aftermarket. The Company, pending establishment of a complete marketing and distribution network for the product, has not disclosed the product s identity in order to first establish a first to market presence against potential competitors. The Company has identified and had discussions with a marketing agency and launch firm for the new product.

On July 17, 2012, the Company announced that it has executed a Memorandum Of Understanding with Stevens Institute of Technology in Hoboken NJ. The Memorandum of Understanding establishes a framework formalizing a cooperative collaboration to jointly pursue business opportunities, research and development (R&D) projects, and other appropriate cooperative arrangements between the parties. The Parties anticipate joint efforts towards achieving mutually beneficial goals and objectives with the intent of working together collaboratively in the design and fabrication of an advanced battery technology utilizing intellectual property and know-how from both parties with the possibility of integrating and advancing mPhase s Smart NanoBattery Technology with Stevens graphene based inkjet printing method for printing electrodes and electronic circuits. The parties also wish to explore the possibility of funding Stevens research activities relative to graphene based research projects to advance the inkjet printing of electronics utilizing advanced materials. Stevens and mPhase also agreed to pursue joint collaborations with Government Research Agencies and other Corporations.

Products & Services

Since its inception in 1996, mPhase has been a development stage company focused on the development of intellectual property involving high technology innovative solutions and products with high-growth potential. The Company has served as an incubator for exploratory research and initial development for products that are best characterized as having a high risk/high reward profile since they involve exploratory research to achieve significant scientific breakthroughs from existing products that can have a substantial economic impact and benefit upon successful commercialization.

NanoBattery

The Smart NanoBattery is an outgrowth of the science of nanotechnology that the Company began in February of 2004 with the entry into a Project Development Agreement with the Bell Labs Division of Lucent Technologies, Inc. The Company has historically outsourced its Research and Development of new products to larger companies or institutions with significant scientific resources and experience in exploratory research. mPhase Technologies along with Alcatel/Lucent/Bell Labs jointly conducted research from February 2004 through April of 2007 that demonstrated control and manipulation of fluids on superhydrophobic surfaces to create power cells by controlling wetting behavior of electrolytes on nano structured electrode surfaces. This scientific research set the ground work for continued exploration in the development of intelligent nanotechnology power cells (nano-batteries), and formed a path to commercialization of the technology for a broad range of market opportunities. During 2005 and 2006, the battery team tested modifications and enhancements to the internal design of the battery to optimize its power and energy density characteristics, as well as engineering improvements that were essential in moving the battery from a zinc based chemistry to a design using lithium based chemistry The Company established a strategic research working relationship with the Energy Storage Research Group (ESRG), a center of excellence in Rutgers University that has lab research facilities capable of handling lithium based battery development.

mPhase's current flagship product is its Smart NanoBattery that has a significantly longer shelf life prior to initial activation than that of conventional batteries. The Smart NanoBattery has potentially significant applications for critical mission power sources that must be reliable and available upon command by the electronic device it is powering. Such applications involve emergency flashlights and beacons, back-up power sources for computers and life support products, as well as significant military applications where critical mission backup power is essential for weapons control computers and electronic warfare equipment used in combat. Other potential military applications include power sources activated by g-forces for guided munitions.

The Smart NanoBattery utilizes a proprietary technology developed over a period of 5 years. The battery design, prior to initial activation, has a membrane that separates the electrolyte and electrodes used to generate power. Conventional batteries do not provide for such separation and therefore their power begins to dissipate prior to the first time they are activated causing them to lose capacity. Conventional batteries have significant limits on how long they can be stored prior to their first activation and in providing a reliable source of power needed for critical

applications requiring portable power supplies.

Mechanically-Activated Reserve Battery

In April of 2008, mPhase successfully produced its first lithium-based breakable separator. This provided the basis of a new reserve battery product that relies on mechanical rather than electrical activation to provide Power on Command. In contrast to the Company's Smart NanoBattery product that is being developed using the science of nanotechnology and relies on an electro wetting membrane, this reserve battery is designed for mechanical rather than electrical activation. Such reserve battery is based upon an innovative mechanical and battery engineering design that is activated by puncturing a soft pouch containing electrolyte. Such reserve battery was especially designed to be used in the Company's new emergency flashlight product. It was designed for the Company by Eagle Picher, a major U.S. battery designer, and the flashlight was designed for the Company by Porsche Design Studio. The Company transitioned the flashlight s backup battery from the Eagle Picher battery to a cost-reduced modified primary battery with an extended shelf life.

Magnetometer: Development Suspended in 2007

In March of 2005, the Company engaged the Bell Labs division of Lucent Technologies, Inc. to develop, using the science of nanotechnology, both a low and high sensitivity magnetometer for both military and commercial use.

Magnetometers can be used in a wide range of applications for the detection of magnetic fields in applications that include military surveillance, securing the retail environment, automotive sensors and actuators, industrial processing, medical imaging, scientific measurements, detection of mineral deposits and even air and space exploration. In sensor networks ultra-sensitive magnetometers can be used, for example, to detect and accurately pinpoint battlefield objects or they might also be used to study the workings of the human brain.

Magnetometers work by sensing changes in magnetic fields due to the motion of magnetic objects or changes in electrical currents generated by those objects. The magnetometer detects these objects by measuring time-varying magnetic signals that are superimposed on the combination of earth s background field used to orient compasses) and static magnetic fields due to near-by magnetic objects. In March of 2007, the Company ceased development with Alcatel/Bell Labs of its magnetometer product in order to conserve financial resources.

Competitive Business Conditions

Battery Segment

The design and functionality of the mPhase/AlwaysReady lithium Smart NanoBattery make it unique to the portable electronics battery market segment. To the best of our knowledge, there is no existing product that directly competes with the Smart NanoBattery in terms of its combination of small size and reserve design. As a reserve battery, the Smart NanoBattery remains dormant until it is activated on command. It does not self-discharge or die prior to its first activation, thereby offering extremely long shelf life prior to use as either a primary or backup battery in a device. Shelf life is projected to be in excess of twenty years.

There are numerous thin film batteries based on lithium metal, lithium ion and lithium polymer, as well as other chemistries, used in military devices, portable electronics, RFID tags and wireless sensor networks, that are similar in size to the Smart NanoBattery, often referred to as microbatteries. None of these designs is based on reserve battery architectures. Thin film batteries are manufactured by companies including Cymbet Corporation, Front Edge Technology, Infinite Power Solutions, ITN Energy Systems, Johnson Research and Development Company, KSW Microtec, Lithium Technology Corporation, MPower Solutions, Oak Ridge Micro-Energy, Power Paper, Solicore, VoltaFlex Corporation. Large companies such as Energizer, Ultralife, Varta and Proctor & Gamble are also involved with developing thin film batteries. Thin film battery markets are anticipated to grow substantially as the result of a wide expansion of portable devices in that time frame. With 3.5 billion cell phone users and 67 billion RFID tags per year anticipated during year 2012, it is expected that there will be substantial commercial demand for thin film batteries.

Traditional reserve batteries are distinct from the mPhase/AlwaysReady Smart NanoBattery in terms of size and activation mechanism. The market for reserve batteries has largely been limited to the military for supplying power to munitions and other mission-critical electronic devices. The traditional reserve battery tends to be larger and certain types are built by hand and contain mechanical parts to activate the battery. The Smart NanoBattery relies on the phenomenon of electrowetting to initiate activation or a mechanical barrier that can be broken, in the case of the breakable barrier design. Traditional reserve batteries for military applications have been supplied by companies such as EaglePicher, Yardney and Storage Battery Systems, Inc. The Company believes that it may be able to significantly reduce the cost of its Smart Nanobattery with the recent discovery of the potential of printing the battery on a form of graphite rather than traditional silicon surface. The Company, through its working relationship with Stevens Institute, began in fiscal year 2012 to investigate the feasibility of the use of graphite which is much stronger, flexible and inexpensive than traditional silicon.

Flashlight and Automotive Product Market

The Company believes that there may be a significant market for a high-end emergency flashlight containing its mechanically activated reserve battery. The need for absolute reliability in many emergency situations includes those of fire, police and other emergency service providers. In addition to providing an emergency light source, when needed, the flashlight developed with such lithium reserve battery has, as an alternative to providing light, a port capable of recharging a cellular telephone produced by Porsche Design Studio as well as those of other major cellular telephone providers. Since the market for new and innovative portable electronic batteries continues to expand, especially in the field of wireless hand-held devices, the Company believes that its emergency flashlight and reserve battery may benefit significantly from this trend. The Company is currently financially constrained with respect to establishing a global marketing and distribution network for the product. The Company plans to address this issue in fiscal year 2013 in conjunction with the roll-out of a new, to be announced, world class automotive product.

Outsourcing

Research and Development

The Company practices an outsourcing model whereby it contracts with third party vendors to perform research and development rather than performing the bulk of these functions internally. For current development of its flashlight and reserve battery, the Company has outsourced the majority of the work. From February of 2004 through March of 2007, the Company engaged Lucent/Bell Labs to develop, using the science of nanotechnology, micro power cell arrays creating a structure for zinc batteries that separated the chemicals or electrolytes prior to initial activation. This was done by suspending on nano grass or small spoke-like pieces of silicon a liquid electrolyte taking advantage of a superhydrophobic effect that occurs as a result of the ability to manipulate materials of a very small size or less than 1/50,000 the size of a human hair. The Company has, as a result of outsourcing, been able to have access to facilities, equipment and research capabilities that the Company would not be able to develop on its own given the financial resources and time that would be required to build or acquire such research capabilities. The Company has also been able to achieve key strategic alliances with the U.S. Army to successfully test, under military combat conditions, its SmartBattery design, leading to further validation of its path to product development under a Cooperative Research and Development Agreement (CRADA). In addition, the Company has formed a relationship with Energy Storage Research Group, a center of excellence at Rutgers University, in New Jersey, that has enabled the Company to expand its battery development from a zinc to a lithium battery capable of delivering significantly more power. During fiscal years 2009 and 2010, the Company outsourced considerable foundry work for final development of the Smart NanoBattery to Silex, a Swedish company.

During the period from March of 2005 to April of 2007, the Company engaged the Bell Labs division of Lucent Technologies, Inc. to develop a magnetometer or electronic sensor also using the science of nanotechnology. Although the Company has, in order to conserve financial resources, currently suspended further development of its magnetometer product line, we believe that the intellectual property developed from the research to date could be resumed to develop viable military and industrial products depending upon future financial resources of the Company and future competitive market conditions.

As previously noted, the Company outsourced to Eagle Picher company most of the prototype development of its mechanically-activated reserve battery and Porsche Design Studio the prototype development and MKE for its design and manufacturing of its pilot program Emergency Flashlight product. The Company continued its outsourcing model in fiscal year ended June 30, 2012 with the complete outsourcing for the design and development of its new automotive product.

During fiscal year ended June 30, 2012, the Company significantly advanced its working relationship with Stevens Institute which could serve as an additional outsourcing entity. In addition the Company had an independent appraisal of its patent portfolio performed by First Principals Inc. during fiscal year 2012 and based upon such appraisal and analysis the Company was invited in March to visit a major French Government sponsored technology cluster in Grenoble France. Membership in the Cluster would enable the Company to utilize the extensive laboratory and other research facilities sponsored by the French government and many large multinational companies that could establish strategic partnerships with the Company. The Company has been invited for a follow-up visit in September of 2012 to further establish the fit with a number of potential strategic partners that are larger companies already members of the cluster.

Prototype Development

As the Company moved from development to commercialization of its emergency flashlight products utilizing its mechanically activated reserve battery, the Company outsourced the creation of prototypes to Porsche Design Studio in December of 2008 and MKE, a mechanical design company in Austria that works closely with them. The reserve battery prototype development work was outsourced to Eagle Picher in early 2009. The Company engaged

Microphase Corporation, a related party, under contract for project management and testing of its new Emergency Flashlight and the mechanically- activated reserve battery initially used in such flashlight at a cost of $50,000 per month for 6 months beginning April 1, 2009 and ending on September 30, 2009. From October 1, 2009 through June 30, 2012 the Company has paid Microphase Corporation a total of $225,000 in connection with its Emergency Flashlight pilot sales program. As of June 30, 2012, the Company has an outstanding payable of approximately $230,000 and an outstanding purchase commitment of approximately $70,000 to Porsche Design Studio for existing and new product prototype development work.

Manufacturing

mPhase subcontracts all of the manufacturing of its products to outside sources including related parties such as Microphase Corporation. During fiscal year ended June 30, 2012 the Company paid $0 for product manufacturing of its Emergency Illuminator. During the fiscal year ended June 30, 2011, the Company paid MKE $87,766 for the manufacture and packaging of its Emergency Illuminator. During the fiscal year ended June 30, 2010, the Company engaged MKE in connection with the manufacture and packaging of its Emergency Illuminator at a cost of $199,092. From April 1, 2009 through August 31, 2009, we paid $50,000 per month to Microphase for project management services in connection with development of the Company's flashlight with Porsche Design Studio and the concurrent development of its mechanically-activated reserve battery by Eagle Picher. The Company believes that such payments are the same as would be charged by other management services provided by non-affiliated third party providers of such services. By using contract manufacturers, mPhase avoids the substantial capital investments required for internal production.

Patents and Licenses

We have filed and intend to file United States patents, in some cases EU patents and/or copyright applications relating to some of our proposed products and technologies, either with our collaborators, strategic partners or on our own. There can be no assurance however, that any of the patents obtained will be adequate to protect our technologies or that we will have sufficient resources to enforce our patents.

Because we may license our technology and products in foreign markets, we may also seek foreign patent protection for some specific patents. With respect to foreign patents, the patent laws of other countries may differ significantly from those of the United States as to the patentability of our products or technology. In addition, it is possible that competitors in both the United States and foreign countries, many of which have substantially greater resources and have made substantial investments in competing technologies, may have applied for, or may in the future apply for and obtain, patents, which will have an adverse impact on our ability to make and sell our products. There can also be no assurance that competitors will not infringe on our patents or will not claim that we are infringing on their patents. Defense and prosecution of patent suits, even if successful, are both costly and time consuming. An adverse outcome in the defense of a patent suit could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties or require us to cease our operations.

The Company has intellectual property as follows:

Nano Technology, Micro Electrical Mechanical Systems (MEMS) and Battery Portfolio:

Various aspects of the mPhase technology are protected by patents either owned directly by the Company or with respect to which the Company has full sub-licensing rights. The Company s current battery related patent portfolio consists of seven issued patents, of which one is jointly owned with Rutgers University, two are jointly owned with Lucent Technologies and four are licensed from Lucent Technologies. These cover such aspects of the technology as the ability to use electrowetting to create a moveable liquid lens, methodology and apparatus for reducing friction between a fluid and a body, methodology for etching planar silicon substrates to develop a reserve battery device, methodology and apparatus for controlling the flow resistance of a fluid on nanostructured or microstructured surfaces, methodology for creating a structured membrane with controllable permeability, methodology for a nanostructured battery with end of life cells, and methodology for making a multi-cell battery system with multiple chemistries in each individual cell of the battery pack. Some of these patents are specific to the development of a battery device while others are more generalized. The Company also has four patent applications related to the Smart Surfaces technology that have been filed with the United States Patent Office and other foreign patent offices and that are in various stages of examiner review, as well as four additional patent applications related to other Smart Surfaces technologies under review.

The Company has obtained trademark protection for its mPower Emergency Illuminator and mPower on Command, and it currently has one additional trademark application pending.

Other Patents

On July 12, 2005, mPhase announced that it had been granted a U.S. patent that covers a series of techniques for splitting different voice and data signals in DSL access networks that is used in its Broadband Loop Watch product. The Company has discontinued further development and marketing of this product owing to the lack of demand for loop diagnostics systems by telephone service providers.

Various aspects of the mPhase technology are protected by patents either owned directly by the Company or with respect to which the Company has full sub-licensing rights. The Company s current battery related patent portfolio consists of seven issued patents, of which one is jointly owned with Rutgers University, two are jointly owned with Lucent Technologies and four are licensed from Lucent Technologies. These cover such aspects of the technology as the ability to use electrowetting to create a moveable liquid lens, methodology and apparatus for reducing friction between a fluid and a body, methodology for etching planar silicon substrates to develop a reserve battery device, methodology and apparatus for controlling the flow resistance of a fluid on nanostructured or microstructured surfaces, methodology for creating a structured membrane with controllable permeability, methodology for a nanostructured battery with end of life cells, and methodology for making a multi-cell battery system with multiple chemistries in each individual cell of the battery pack. Some of these patents are specific to the development of a battery device while others are more generalized. The Company also has four patent applications related to the Smart Surfaces technology that have been filed with the United States Patent Office and other foreign patent offices and that are in various stages of examiner review, as well as four additional patent applications related to other Smart Surfaces technologies under review.

The Company has obtained trademark protection for its mPower Emergency Illuminator and mPower on Command, and it currently has one additional trademark application pending.

In July of 2009, the Company filed for 3 new patents covering the unique design features of its manually-activated lithium reserve battery and emergency flashlight products.

On May 20, 2011, the Company announced that it had been granted a U.S. patent for multi-chemistry battery architecture.

As of fiscal year ended June 30, 2012, the Company has filed the following patents:

	Title	Awarded	Pending
1	Electrical Device Having A Reserve Battery Activation System		X
2	Combined Wetting/Non-Wetting Element for Low & High Surface Tension Liquids		X
3	Non-Pump Enabled Drug Delivery System		X
4	Device For Fluid Spreading & Transport		X
5	Adjustable Barrier For Regulating Flow of a Liquid		X
6	Reserve Battery System		X
7	Modular Device		X
8	Event Activated Micro Control Devices		X
9	Portable Battery Booster		X
10	Battery System	X	
11	Reserve Battery		X
12	Tunable liquid microlens with lubrication assisted electrowetting	X	
13		X	

	Method and apparatus for reducing friction between a fluid and a body		
14	Battery having a nano structured electrode surface	X	
15	Method and apparatus for controlling the flow resistance of a fluid on nano structured or micro structured surfaces	X	
16	Structured membrane with controllable permeability	X	
17	Nanostructure battery having end of life cells	X	

We also rely on unpatented proprietary technology, and we can make no assurance that others may not independently develop the same or similar technology or otherwise obtain access to our unpatented technology.

Research and Development

From March of 2005 through March of 2007, the Company had engaged Bell Labs under separate Development Agreements for the development of a new generation of ultra-magnetic sensors (magnetometers) using the science of nanotechnology with a total cost of $2.4 million. The Company did not renew such its engagement with Bell Labs upon expiration and did not incur any further costs with respect to its magnetometer since the Company has suspended further development of the product to conserve financial resources.

On September 23, 2008, the Company announced that its internal research and development effort had resulted in the successful creation of a compact lithium reserve battery reserve battery prototype with a breakable separator capable of powering a high-intensity emergency flashlight. The manually-activated reserve battery is based upon the same principles of separation of liquid electrolyte from solid electrodes as the Company s Smart NanoBattery but was developed based upon traditional mechanical engineering technology.

Our Smart NanoBattery and power cell technology research and development was performed by the Bell Labs division of Alcatel/Lucent from February of 2004 through March of 2007 at an aggregate cost of $3.8 million. The Company paid Bell Labs $300,000 covering the period from April 27, 2007 through July 30, 2007, at which time it determined that, in order to develop a lithium battery for higher density energy than zinc, it required facilities capable of handling lithium battery research that Bell Labs does not have. The Company engaged a number of small foundries during fiscal year ended June 30, 2008 for commercialization of its Smart NanoBattery at a cost of approximately $150,000. In fiscal year ended June 30, 2009, the Company engaged Eagle Picher at a cost of $75,000 to design and engineer a prototype of its manually-activated lithium reserve battery and Porsche Design studio at a cost of $79,123 for design of its emergency flashlight product. In addition, the Company secured a Co-Branding Agreement with Porsche Design Studio for its emergency flashlight product. In fiscal year ended June 30, 2010, the Company paid $950,018 in connection with producing and bringing this product to market, and in fiscal year ended June 30, 2011, the Company incurred $33,254 of expenses in connection with this product. During the fiscal year ended June 30, 2009, the Company engaged Silex, a silicon foundry in Sweden, at a cost of $21,200 for further development of its Smart NanoBattery; payments to Silex for fiscal year ended June 30, 2010 in connection with the Smart NanoBattery amounted to $396,780, and for fiscal year ended June 30, 2011 they were $40,800.

During fiscal years ended June 30, 2008, June 30, 2009 and June 30, 2010, the Company engaged in joint research with Rutgers University in connection with a $750,000 STTR Grant from the United States Army for purposes of developing an emergency reserve battery to back-up a computer memory application.

During fiscal years ended June 30, 2009, June 30, 2010 and June 30, 2011, the Company engaged MKE, an approved vendor of Porche Design Studio to manufacture prototypes as well as a series of commercialized emergency flashlights utilizing the design developed for the Company by Porsche Design Studio.

Commencing in fiscal year ended June 30, 2011, the Company engaged Porsche Design Studio to develop a second automotive product for the Company. During fiscal year ended June 30, 2012, the Company continued the development of its Smart Nano Battery and progressed in the development of a final prototype of its second automotive product.

Employees

mPhase and its subsidiary companies presently have a total of 5 full-time employees and consultants, two of whom are also employed by Microphase Corporation. See the description in the section entitled Certain Relationships and Related Transactions.

ITEM 1A. RISK FACTORS

Risks Relating to the Company s Early Stage of Development

Our business is at an early stage of development and we may not develop products that can be commercialized.

We have derived very limited revenues from a Phase I Army Grant of approximately $100,000 and a Phase II Army Grant of approximately $750,000 with respect to our Smart NanoBattery product from inception of development in February 2004 through March 30, 2011. We have derived revenues of only $41,283 from our Emergency Flashlight product from inception of sales in April of 2010 through June 30, 2012 and we have been forced to discontinue product development and marketing of our magnetometer product owing to limited financial resources.

We have limited manufacturing, marketing, distribution and sales capabilities which may limit our ability to generate revenues.

Due to the relatively early stage of our products, we have not yet invested significantly in manufacturing, marketing, distribution or product sales resources. We cannot assure you that we will be able to invest or develop any of these resources successfully or as expediently as necessary. The inability to do so may inhibit or harm our ability to generate revenues or operate profitably.

We have a history of operating losses and we may not achieve future revenues or operating profits.

We have generated modest revenue to date from our operations. Historically we have had net operating losses each year since our inception. As of June 30, 2012, we have an accumulated deficit of $(203,430,907) and a stockholders deficit of $(5,502,767) and incurred a net loss of $8,786,952. We incurred net losses of $8,786,952 and $486,391 for the years ended June 30, 2012 and June 30, 2011, respectively. The Company does not generate significant revenue outside of STTR grants and minor sales of its emergency illuminator product. Additionally, even if we are able to commercialize our technologies or any products or services related to our technologies it is not certain that they will result in revenue or profitability.

We have a limited operating history on which investors may evaluate our operations and prospects for profitable operations.

If we continue to suffer losses as we have in the past, investors may not receive any return on their investment and may lose their entire investment. Our prospects must be considered speculative in light of the risks, expenses and difficulties frequently encountered by companies in their early stages of development, particularly in light of the uncertainties relating to the new, competitive and rapidly evolving markets in which we anticipate we will operate. To attempt to address these risks, we must, among other things, further develop our technologies, products and services, successfully implement our research, development, marketing and commercialization strategies, respond to competitive developments and attract, retain and motivate qualified personnel. A substantial risk is involved in investing in us because, as an early stage company we have fewer resources than an established company, our management may be more likely to make mistakes at such an early stage, and we may be more vulnerable operationally and financially to any mistakes that may be made, as well as to external factors beyond our control.

Risks Relating to Technology

We are dependent on new and unproven technologies.

Our risks as an early stage company are compounded by our heavy dependence on emerging and sometimes unproven technologies. If these technologies do not produce satisfactory results, our business may be harmed.

We may not be able to commercially develop our technologies and proposed product lines, which, in turn, would significantly harm our ability to earn revenues and result in a loss of investment.

Our ability to commercially develop our technologies will be dictated in large part by forces outside our control which cannot be predicted, including, but not limited to, general economic conditions, the success of our research and field testing, the availability of collaborative partners to finance our work in pursuing applications of smart surfaces using materials science engineering, nanotechnology science and the principles of microfluidics and MEMS and technological or other developments in the field which, due to efficiencies or technological breakthroughs may render one or more areas of commercialization more attractive, obsolete or competitively unattractive. It is possible that one or more areas of commercialization will not be pursued at all if a collaborative partner or entity willing to fund research and development cannot be located. Our decisions regarding the ultimate products and/or services we pursue could have a significant adverse effect on our ability to earn revenue if we misinterpret trends, underestimate development costs and/or pursue wrong products or services. Any of these factors either alone or in concert could materially harm our ability to earn revenues or could result in a loss of any investment in us.

If we are unable to keep up with rapid technological changes in our field or compete effectively, we will be unable to operate profitably.

We are engaged in activities in the nanotechnology and microfluidics field, which is characterized by extensive research efforts and rapid technological progress. If we fail to anticipate or respond adequately to technological developments, our ability to operate profitably could suffer. We cannot assure you that research and discoveries by other companies will not render our technologies or potential products or services uneconomical or result in products superior to those we develop or that any technologies, products or services we develop will be preferred to any existing or newly-developed technologies, products or services.

Risks Related to Intellectual Property

Certain aspects of our technology are not protectable by patent.

Certain parts of our know-how and technology are not patentable. To protect our proprietary position in such know-how and technology, we require all employees, consultants, advisors and collaborators with access to our technology to enter into confidentiality and invention ownership agreements with us. We cannot assure you; however, that these agreements will provide meaningful protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure. Further, in the absence of patent protection, competitors who independently develop substantially equivalent technology may harm our business.

Patent litigation presents an ongoing threat to our business with respect to both outcomes and costs.

It is possible that litigation over patent matters with one or more competitors could arise. We could incur substantial litigation or interference costs in defending ourselves against suits brought against us or in suits in which we may assert our patents against others. If the outcome of any such litigation is unfavorable, our business could be materially adversely affected. To determine the priority of inventions, we may also have to participate in interference proceedings declared by the United States Patent and Trademark Office, which could result in substantial cost to us. Without additional capital, we may not have the resources to adequately defend or pursue this litigation.

We may not be able to protect our proprietary technology, which could harm our ability to operate profitably.

Patent and trade secret protection is critical for the new technologies we utilize, nanotechnology and microfluidics, as well as the products and processes derived through them. Our success will depend, to a substantial degree, on our ability to obtain and enforce patent protection for our products, preserve any trade secrets and operate without infringing the proprietary rights of others. We cannot assure you that:

- we will succeed in obtaining any patents in a timely manner or at all, or that the breadth or degree of protection of any such patents will protect our interests,

- the use of our technology will not infringe on the proprietary rights of others,

- patent applications relating to our potential products or technologies will result in the issuance of any patents or that, if issued, such patents will afford adequate protection to us or not be challenged, invalidated or infringed, and

- patents will not issue to other parties, which may be infringed by our potential products or technologies.

- we will continue to have the financial resources necessary to prosecute our existing patent applications, pay maintenance fees on patents and patent applications, or file patent applications on new inventions.

The fields in which we operate have been characterized by significant efforts by competitors to establish dominant or blocking patent rights to gain a competitive advantage, and by considerable differences of opinion as to the value and legal legitimacy of competitors' purported patent rights and the technologies they actually utilize in their businesses.

Patents obtained by other persons may result in infringement claims against us that are costly to defend and which may limit our ability to use the disputed technologies and prevent us from pursuing research and development or commercialization of potential products.

If third party patents or patent applications contain claims infringed by either our technology or other technology required to make and use our potential products and such claims are ultimately determined to be valid, there can be no assurance that we would be able to obtain licenses to these patents at a reasonable cost, if at all, or be able to develop or obtain alternative technology. If we are unable to obtain such licenses at a reasonable cost, we may not be able to develop some products commercially. We may be required to defend ourselves in court against allegations of infringement of third party patents. Patent litigation is very expensive and could consume substantial resources and create significant uncertainties. Any adverse outcome in such a suit could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties, or require us to cease using such technology.

We may not be able to adequately