ARROWHEAD RESEARCH CORP
Form 10-K
December 22, 2009
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-K

(Mark One)

x ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended September 30, 2009.

¨ TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number 000-21898

ARROWHEAD RESEARCH CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**46-0408024**
(State of incorporation)	**(I.R.S. Employer Identification No.)**

201 S. Lake Avenue, Suite 703

Pasadena, California 91101

(626) 304-3400

(Address and telephone number of principal executive offices)

Securities registered under Section 12(b) of the Exchange Act:

Title of each class	**Name of each exchange on which registered**
Common Stock, $0.001 par value	**The NASDAQ Capital Market**

Securities registered pursuant to Section 12(g) of the Exchange Act:

None

Indicate by a 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 a check mark if the registrant is not required to file reports pursuant to Section 13 or 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 such shorter period that the registrant was required to file such reports), 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ¨ No ¨

Indicate by check mark if 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 amendment to this Form 10-K. ¨

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act.

Large accelerated filer ¨ Accelerated filer ¨ Non-accelerated filer ¨ 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

Issuer s revenue for its most recent fiscal year: $3,773,147.

The aggregate market value of issuer s outstanding Common Stock held by non-affiliates was approximately $24 million based upon the bid price of issuer s Common Stock on March 31, 2009.

As of December 15, 2009, 62,788,380 shares of the issuer s Common Stock were outstanding.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and we intend that such forward-looking statements be subject to the safe harbors created thereby. For this purpose, any statements contained in this Annual Report on Form 10-K except for historical information may be deemed to be forward-looking statements. Without limiting the generality of the foregoing, words such as may, will, expect, believe, anticipate, intend, could, estimate, or continue or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. In addition, any statements that refer to projections of our future financial performance, trends in our businesses, or other characterizations of future events or circumstances are forward-looking statements.

The forward-looking statements included herein are based on current expectations of our management based on available information and involve a number of risks and uncertainties, all of which are difficult or impossible to predict accurately and many of which are beyond our control. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Factors that may cause or contribute to such differences include, but are not limited to, those discussed in more detail in Item 1 (Business) and Item 1A (Risk Factors) of Part I and Item 7 (Management s Discussion and Analysis of Financial Condition and Results of Operations) of Part II of this Annual Report on Form 10-K. Readers should carefully review these risks, as well as the additional risks described in other documents we file from time to time with the Securities and Exchange Commission. In light of the significant risks and uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by us or any other person that such results will be achieved, and readers are cautioned not to place undue reliance on such forward-looking information. Except as may be required by law, we undertake no obligation to revise the forward-looking statements contained herein to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

WHERE YOU CAN FIND MORE INFORMATION

As a public company, we are required to file annual, quarterly, and current reports, proxy statements and other information with the SEC. You may read and copy any of our materials on file with the SEC at the SEC s Public Reference Room at 100 F Street, N.E., Washington, DC 20549, as well as at the SEC s regional office at 5757 Wilshire Boulevard, Suite 500, Los Angeles, California 90036. Our filings are available to the public at the SEC s website at www.sec.gov. Please call the SEC at 1-800-732-0330 for further information on the Public Reference Room. We also provide copies of our Forms 8-K, 10-K, 10-Q, Proxy Statements and Annual Reports at no charge to investors upon request and make electronic copies of our most recently filed reports available through our website at www.arrowheadresearch.com as soon as reasonably practicable after filing such material with the SEC.

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PART I

ITEM 1. BUSINESS

Description of Business

Unless otherwise noted, (1) the term Arrowhead refers to Arrowhead Research Corporation, a Delaware corporation formerly known as InterActive Group, Inc., (2) the terms the Company, we, us, and our, refer to the ongoing business operations of Arrowhead and its Subsidiaries, whether conducted through Arrowhead or a subsidiary of Arrowhead, (3) the term ARC refers to Arrowhead Research Corporation, a privately-held California corporation with which Arrowhead consummated a stock exchange transaction in January 2004, (4) the term Subsidiaries refers collectively to Calando Pharmaceuticals, Inc. (Calando), Unidym, Inc. (Unidym), Agonn Systems, Inc. (Agonn) and Tego Biosciences Corporation (Tego) and Masa Energy LLC (Masa) (5) the term Common Stock refers to Arrowhead s Common Stock and the term stockholder(s) refers to the holders of Common Stock or securities exercisable for Common Stock.

Overview

Arrowhead Research Corporation is a development stage nanotechnology holding company that forms, acquires, and operates subsidiaries commercializing innovative nanotechnologies. By working closely with leading scientists and universities, Arrowhead identifies advances in nanotechnology and matches them with product development opportunities in high-growth markets. The Company is currently focused on the electronics and biotech industries.

Providing strategic management, financing, and operational services to its subsidiaries, Arrowhead takes an active role in their development, keeping the business and technical development teams at the subsidiary companies focused on near term revenue opportunities and capital efficiency.

Arrowhead s ultimate goal is to realize the value of its subsidiaries by:

A public offering of subsidiary stock;

A sale of subsidiary to another company; or

Building Arrowhead s ownership position to 100% with revenue from subsidiary flowing to Arrowhead s bottom line.

Arrowhead owns two majority-owned operating subsidiaries, Unidym and Calando, three wholly-owned, non-operating subsidiaries, Tego, Agonn, and Masa Energy LLC, and has minority investments in two early-stage nanotechnology companies, Nanotope, Inc. (Nanotope) and Leonardo Biosystems, Inc. (Leonardo). Arrowhead s business plan includes adding to its portfolio through selective acquisition and formation of new companies, as capital resources allow.

Arrowhead is incorporated in Delaware and its principal executive offices are located in Pasadena, California.

The implementation of our business strategy is still in the development stage. Arrowhead and its subsidiaries fund research and operations from cash on hand, government grants, license royalties and carbon nanotube (CNT) sales, as well as equity and debt financing. Neither Arrowhead, nor its subsidiaries, has derived enough revenue from product sales or exit events to self fund their operations.

The Company was originally incorporated in South Dakota in 1989, and was reincorporated in Delaware in 2000. The Company s principal executive offices are located at 201 South Lake Avenue, Suite 703, Pasadena, California 91101, and its telephone number is (626) 304-3400. As of September 30, 2009, Arrowhead Research Corporation had 10 full-time employees at the corporate office and 10 full-time employees at its Subsidiaries.

Subsidiaries and Investments

The Company s two majority-owned Subsidiaries, three wholly-owned Subsidiaries and two minority investments are focused on developing commercializing and licensing a variety of nanotechnology products and applications, including anti-cancer drugs, RNAi therapeutics, regenerative therapeutics, advanced drug delivery technology, energy storage technology, carbon-based electronics, and fullerene anti-oxidants. Arrowhead anticipates expanding its portfolio through selective acquisition and the formation of new companies, as capital resources allow.

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As of September 30, 2009, Arrowhead held a majority of the outstanding voting stock of the following two operating Subsidiaries.

Subsidiary	% Ownership*	Technology/Product Focus
Calando Pharmaceuticals, Inc.	67.8%	Clinical stage nano-engineered delivery of RNAi therapeutics and small molecule drugs for the treatment of cancer with first anti-cancer compound
Unidym, Inc.	79.9%	Commercialization of carbon nanotube products for the electronics industry

* As of September 30, 2009, on a fully-diluted basis, Arrowhead owns approximately 63.6% of Calando and 65.0% of Unidym.

As of September 30, 2009, Arrowhead had three wholly-owned Subsidiaries, none of which has any employees. The three wholly-owned subsidiaries are as follows:

Subsidiary	% Ownership**	Technology/Product Focus
Tego Biosciences Corporation	100%	Modification of fullerenes for therapeutic and diagnostic applications
Agonn Systems, Inc.	100%	Exploring nanotechnology-based energy storage devices for hybrid electric vehicles and other large format applications
Masa Energy LLC	100%	Holding company with sole assets consisting of 22% ownership position in Nanotope and 6% in Leonardo (see below)

** As of September 30, 2009, on a fully-diluted basis, Arrowhead owns approximately 85% of Tego.

Arrowhead owns a minority position in each of two early stage nanotechnology companies:

Minority Investment	% Ownership***	Technology/Product Focus
Nanotope, Inc.	22%	Developing nano-engineered, self-assembling, bioactive scaffolding for the treatment of spinal cord injury and peripheral artery disease
Leonardo Biosystems, Inc.	6%	Developing an advanced set of nanotechnology tools to deliver anti-cancer therapeutics

*** In April 2008, Arrowhead acquired Masa Energy LLC, a limited liability company whose sole assets were an approximate 6% ownership interest in each of Nanotope and Leonardo Biosystems. Since the acquisition of Masa in April 2008, Arrowhead increased its position in Nanotope to 22% through a $2 million investment ($1 million was invested in July 2008 and the remaining $1 million was invested in September 2008).

Cash Resources

As a development stage company, Arrowhead has historically financed its operations through the sale of securities of Arrowhead and its Subsidiaries. Development of products at our Subsidiaries, in particular Calando and Unidym, has required significant capital investment since

the Company s inception in 2003 and is expected to continue to require significant cash investment in fiscal 2010 to continue development. At September 30, 2009, Arrowhead had cash on hand of approximately $2 million on a consolidated basis.

On December 11, 2009, Arrowhead Research Corporation (the Company) executed definitive agreements for a private placement offering (the Offering) with a selected group of accredited investors. Pursuant to the Offering, the Company sold an aggregate of approximately 5.1 million units (the Units) consisting of one share of the Company s common stock, $0.001 par value per share (Common Stock) and a warrant to purchase an additional share of Common Stock, exercisable at $0.509 per share. The

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Unit price was $0.634 per unit. The unit price is based on the closing bid price on the Company s common stock on December 11, 2009 which was $0.509 plus a premium of $0.125 added for the purchase of the warrant, per NASDAQ rules. The Warrants become exercisable on June 12, 2010 and remain exercisable until December 11, 2014, unless redeemed earlier as permitted. The warrants may be redeemed for nominal consideration if the Company s common stock trades above $1.20 for at least 30 trading days in any 60-trading day period. The Offering is expected to close on or before December 28, 2009 with gross proceeds totaling approximately $3.2 million before estimated expenses of $25,000. The Shares and Warrants were offered and sold only to accredited investors in reliance on Section 4(2) of the Securities Act of 1933, as amended (the Securities Act), and Rule 506 promulgated thereunder. The Shares and Warrants sold in the private placement have not been registered under the Securities Act or state securities laws and may not be offered or sold in the United States absent registration with the Securities and Exchange Commission or an applicable exemption from the registration requirements. The Company has agreed to file a registration statement with the Securities and Exchange Commission covering the resale of the Shares and the shares of Common Stock issuable upon exercise of the Warrants.

Management has developed a plan based upon the latest financing and other transactions which are expected to close in the near term. The plan shows that the Company has enough cash to fund operations through September 30, 2010. Should a shortfall occur in expected cash receipts, the plan has contingencies to reduce expenditures in order to operate through September 30, 2010.

In fiscal 2009, the Company obtained $7.3 in cash through equity and debt financing and $4.4 million from the sales of assets, products and license fees. The Company is pursuing a strategy to continue operations while conserving cash and seeking new sources of capital. The Company is seeking to accomplish one or more of the following on favorable terms:

- out-license of technology;
- sale of a subsidiary;
- sale of non-core assets;
- funded joint development or partnership arrangements; and
- sale of securities.

The Company is actively involved in discussions with third parties regarding several of these alternatives. However, until such time as one or more of these goals can be accomplished, the Company will continue to implement streamlining and cash conservation measures that began in fiscal 2008 and continued throughout fiscal 2009. See Risk Factors described in Item 1A.

Subsidiaries

Unidym, Inc.

Overview

Unidym is a leader in carbon nanotube-based transparent, conductive films (TCFs) for the electronics industry. TCFs are a critical component in devices such as touch panels, displays, and thin-film solar cells. For example, both touch panels and LCDs typically employ two TCF layers per device. Unidym s TCFs offer substantial advantages over the incumbent technology, indium-based metal oxides, including: improved durability, lower processing costs, and lower overall cost structure.

Unidym s products are based on electronics-grade carbon nanotubes (CNTs), a class of molecules with multiple unique properties. For instance, some varieties conduct electricity better than copper, they are stronger than steel, and they may be synthesized in bulk quantities. In 2005, the CNT field was highly fragmented, and Arrowhead sought to consolidate the intellectual property for the technology in an effort to create a dominant position in high value CNTs. As a result of licensing from twelve universities and acquisitions of three CNT-related companies,

Unidym owns or has exclusive license to a large portfolio of approximately 150 key CNT-related patents and patent applications. The Company believes Unidym holds foundational intellectual property surrounding high value electronics grade CNT manufacturing and processing. With this strong patent portfolio and significant experience applying this technology to electronics markets, Unidym is beginning to make modest sales of its TCF film to device manufacturers and believes that it is well-positioned to increase sales in 2010. Unidym s management team is focused on customer interaction to optimize its products to meet customer specifications with a goal of generating product sales for touch screens in the near term.

Unidym requires additional capital to fund its operations and obligations through fiscal 2010.

Collaborations and Partnerships

Unidym has several ongoing joint development agreements with various partners to incorporate its transparent conductive films into touch panels and displays. In 2008, several prototypes were demonstrated at industry conferences. Unidym and Samsung Electronics Co., Ltd. extended their collaboration to integrate carbon nanotube materials as the transparent conductive layer in display devices. The world s first carbon nanotube-based color active matrix electrophoretic display (EPD) e-paper was demonstrated at the Society for Information Display in May 2008 and at the International Meeting on Information Display (iMiD) at KINTEX, Ilsan, Korea in October 2008. The new color e-paper device is a 14.3 format display that uses a carbon nanotube (CNT) transparent electrode developed by Unidym. The display was one product of the ongoing joint development agreement between Unidym and Samsung. In addition, Unidym displayed a carbon nanotube based active matrix LCD made in collaboration with Silicon Display Technology, a company based in Seoul, Korea. Another collaborative effort is testing the use of Unidym s TCF s in solar cells.

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In addition to these efforts in Unidym s core focus of electronics, Unidym is seeking to leverage its broad intellectual property portfolio in other areas through its licensing and other collaborative programs.

In March 2008, Unidym sub-licensed certain of its intellectual property to Ensysce BioSciences Inc. (Ensysce) whose focus is research into the medical therapeutic applications of carbon nanotubes. From March 2008 to November 2008, Ensysce was both funded and effectively controlled by a related party to Unidym who also serves as a director of Unidym. In November 2008, Unidym sold its 50 percent interest in Ensysce to the controlling shareholder and recognized a gain of $700,000 on the sale during the first quarter of fiscal 2009.

Unidym entered into a strategic alliance with the Battelle Memorial Institute in July 2007 to explore opportunities to leverage their respective capabilities to commercialize products incorporating carbon nanotubes. Battelle is the world s largest non-profit independent research and development organization, with 20,000 employees in more than 120 locations worldwide. In 2008, Unidym expanded this relationship to include an alliance focused on multi-functional nano-composites for aerospace and transportation applications.

Unidym s carbon nanotubes have been used to increase strength and flexibility in the engine cowling of an aerobatic airplane, while reducing stress failures due to flight loads, showing potential for similar uses in other aerospace applications.

Production

Production of Carbon Nanotube Based Transparent Conductive Films

Unidym s film production model involves in-house pilot production and outsourced supply of larger volumes of a proprietary grade of CNTs under an exclusive supply agreement, formulation of those CNTs into a coating ink, and then shipment of that ink to an outsourced coating partner or customer for deposition. To conserve cash and pursue a strategy designed to yield revenues in the short term, Unidym is exploring partnerships or outsourcing within this supply chain.

Unidym has in-house deposition or coating equipment which is used for the deposition of CNTs onto plastic or glass substrates in sample quantities. Unidym has also tested production samples from several coating subcontractors. The use of outsourced coating partners for its touch panel films would take advantage of the substantial excess capacity left in the coating industry by the decrease in demand for photographic film. Unidym expects that, given the abundance of these subcontractors and the availability of cost effective subcontract capacity, there will be no need to bring production capacity in-house in the near term. However, longer term, Unidym could decide to bring such production in-house.

Production of Carbon Nanotubes

Unidym has historically produced carbon nanotubes in-house. In line with its strategy to work with manufacturing partners, in May 2009, Unidym transferred a portion of its assets for CNT production to CCNI, a manufacturer of CNTs and carbon black, and is in the process of negotiating a license and supply agreement with CCNI for the production of Unidym s CNT supply needs. The consideration for the assets to be transferred and licenses to be granted in the second agreement is still being negotiated, but is expected to consist of upfront payments and royalties. Unidym anticipates retaining some limited in-house CNT production capability for product improvements and as a second source of supply. Unidym plans to manufacture CNT inks and is negotiating with potential partners to manufacture and sell films to customers.

Marketing and Sales

Unidym expects to generate revenue from sales of thin films, sale of CNTs and sale of CNT based ink in fiscal 2010. Revenue is expected to be generated through direct product sales and license deals into relatively consolidated industries. In addition, Unidym plans to take advantage of its extensive metrology equipment and excess space to create a small incubator for start-ups that will defray costs for its Sunnyvale facility. In the near term, Unidym does not expect to generate enough revenue to self fund its operations and growth. Unidym has terminated its distribution relationship with the large Japanese trading firm, Sumitomo, but Unidym expects to continue to generate revenues through direct sales of its HIPCO grade CNTs.

Competition

Unidym faces competition from a number of start-ups and established companies in the industries it enters. In the electronics industry, there are a number of start-up or private companies that are focused on the application or production of nanotubes including Automate, C-Nano, Eikos, Nantero and Southwest Nanotechnologies. More established companies with announced CNT programs include Brewer Sciences, DuPont, Honeywell, Samsung, Sumitomo and Toray. There are also potential competitors who are pursuing alternative nanotech-based approaches to the markets served by Unidym, including the start-up Cambrios and large Japanese companies such as Fujitsu.

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Intellectual Property

Unidym controls an intellectual property portfolio containing over 100 foreign and domestic patents and patent applications. The portfolio contains patent claims directed to fundamental carbon nanotube compositions of matter, as well as carbon nanotube synthesis, purification, dispersion and functionalization. Furthermore, the portfolio contains claims to the use of carbon nanotubes in many different application areas including fibers, electronics, composite materials, energy storage/generation, medical devices and drug delivery. Some patents and patent applications are owned by Unidym (or co-owned with partners such as Continental Carbon and Tokyo Electron), but most are exclusively licensed from institutions such as Rice University, Georgia Tech, Clemson, University of Florida, SUNY, and Caltech. Under its agreement with Clemson, Unidym has an exclusive license to U.S. Patent 7,265,174, which we believe has the earliest priority date of any patent claiming transparent, conductive films comprised of carbon nanotubes. Under its agreement with Caltech, Unidym has the right to sublicense U.S. Patent 5,424,054, which is the basic patent claiming small diameter nanotube composition of matter. Unidym also has the right to license an IP portfolio related to modified fullerene for non-therapeutic fields of use. Unidym has licensed its intellectual property to DuPont, Ensysce Biosciences, Nexeon MedSystems, Nano C, and other third parties. Unidym is currently executing a plan to encourage third parties and competitors to enter non-exclusive licenses of its intellectual property outside of its core product areas. A material portion of Unidym s intellectual property portfolio is exclusively licensed from Rice University. If the sum of Unidym s debts, liabilities and other obligations is greater than all of Unidym s assets at fair valuation or if Unidym is generally not paying its debts, liabilities and other obligations as they come due; the Rice license will terminate and Unidym may lose rights to critical intellectual property.

Key Personnel

Mark Tilley, Ph.D is the CEO of Unidym. Dr. Tilley joined the Company after a nine year tenure at DSM N.V., a $12 billion Netherlands based specialty performance materials and life science company. During his tenure, he worked in DSM s venturing arm, led marketing and technical teams, and built a nano-enabled flat panel displays materials business that was acquired by Japan Synthetic Rubber in 2005. Dr. Tilley also co-founded Kriya Materials B.V., a venture capital backed nano-materials and coatings company based in the Netherlands. Dr. Tilley has held marketing and R&D positions at SDC Coatings, a joint venture founded by Dow Corning and Pilkington Glass, Valspar and GE Plastics where he started his career at their Corporate R&D center as a Senior Scientist. He holds a BS in Chemistry from the University of Manchester Institute of Science and Technology in Manchester, UK, a Ph.D. from North Dakota State University in Fargo, and a M.B.A from Pepperdine University.

Unidym s Board of Directors is comprised of R. Bruce Stewart, Executive Chairman of Arrowhead, Christopher Anzalone, CEO and director of each Arrowhead, Calando, Tego, Nanotope and Leonardo, Edward W. Frykman and Charles McKenney, both Arrowhead Directors, Dr. Bob Gower, former CEO of CNI, and Ray McLaughlin, former CFO of CNI.

At September 30, 2009, Unidym had 10 full-time employees. During fiscal 2009, Unidym reduced its management and technical staff.

Calando Pharmaceuticals, Inc.

Overview

Calando is a clinical stage nano-biotechnology company at the forefront of RNAi therapeutics. Calando has developed a nanoparticle-based drug delivery system for siRNA. Calando s platform technology is being used in a Phase I clinical trial to systemically deliver for what is believed to be for the first time a siRNA drug candidate targeting cancer. Although the trial is not complete, no significant drug-related toxicities have been observed and the trial appears to be yielding promising results.

Calando is based on pioneering technology invented in the Chemical Engineering division of the California Institute of Technology. Developed to reduce the debilitating effects of cancer treatment, Calando s proprietary molecules are designed to improve the safety and efficacy of cancer therapeutics. Currently focused on siRNA and oncology applications, Calando s platform technology has the potential to be applied to a wide range of diseases beyond cancer as well as to therapeutic classes beyond siRNA therapeutics. In 2009, Calando successfully completed a Phase 1 clinical study with its first therapeutic candidate, IT-101, comprised of Calando s system coupled with a small molecule chemotherapeutic drug.

Calando is focused on the clinical development of RONDEL™, its siRNA delivery technology, and CALAA-01, the associated drug candidate. The further development of the small molecule delivery platform and IT-101, the associated drug candidate, has been partnered to another company. Calando requires additional capital to fund its operations and obligations through fiscal 2010.

Platform Technology

Based on a novel polymeric sugar (linear cyclodextrin) molecule, Calando s drug delivery system has been applied thus far to the delivery of two classes of therapeutics: siRNA and other oligonucleotides and small molecule drugs. The polymer is combined with the drug molecule to form drug containing nanoparticles sized larger than 10 nanometers and smaller than 100 nanometers. This size is important; drug molecules are typically sized below 10 nanometers and are quickly cleared from the body in the urine.

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Nanoparticles sized larger than 10 nanometers circulate longer and thus can allow administration of lower doses to patients. Nanoparticles sized smaller than 100 nanometers can escape the circulatory system through the abnormally leaky blood vessels that feed tumors and are retained in the tumor tissue due to a lack of effective tumor lymphatic drainage. Preferential accumulation in tumor tissue, where the drug can take effect, leaves other tissues relatively unaffected. Patients from Calando s first clinical trial reported fewer and less serious side effects with several cases of stable disease over many months of treatment, including one case of pancreatic cancer that was stabilized for seventeen months. The drug delivery system has the added benefits of increasing solubility, allowing targeting of the nanoparticles, and being non-immunogenic.

Calando s RONDEL Technology

RNA interference or RNAi is a naturally occurring mechanism for the regulation of gene expression that selectively inhibits the activity of, or silences, target genes. Discovered by scientists in 2002 who were subsequently awarded the Nobel Prize in Physiology or Medicine in 2006, RNAi has been hailed as a tremendous breakthrough. Because many diseases are caused by the inappropriate activity of genes, RNAi has potential application to many serious or fatal diseases including cancer, AIDS, hepatitis C, Huntington s disease and others. The mechanism is mediated by small interfering RNA known as siRNA.

One of the key challenges to using RNAi therapy has been the inability to systemically deliver siRNA in humans. Naked siRNA is degraded and destroyed by nucleases in the bloodstream and is not taken up by cells. Calando s RONDEL system is providing new hope that effective siRNA delivery can be achieved safely and economically. Calando s polymers form the foundation for its three-part RNAi/Oligonucleotide Nanoparticle Delivery (RONDEL) technology. The first component is the positively charged polymer that, when mixed with siRNA, binds to the negatively charged backbone of the siRNA. The polymer and siRNA self-assemble into nanoparticles less than 100 nm diameter that fully protect the siRNA from nuclease degradation in serum. The cyclodextrin in the polymer enables the surface of the particles to be decorated by stabilizing agents and targeting ligands. These surface modifications are formed by proprietary methods involving the cyclodextrins.

The surface-modifying agents have terminal adamantane groups that form inclusion complexes with the cyclodextrin and contain poly (ethylene glycol) (PEG) to endow the particles with properties that prevent aggregation, enhance stability and enable systemic administration. Targeting molecules can be covalently attached to the adamantane-PEG modifier, enabling the siRNA-containing particles to be targeted to tissues of interest.

RONDEL technology offers the following advantages:

Generalized delivery system Binds to and self-assembles with the siRNA to form uniform colloidal-sized particles. Analysis has shown that these particles are spherical and less than 100 nm in diameter.

Ease of Administration The RONDEL system has been designed for use as part of a two-vial system: one vial contains the delivery components, and the second vial contains the therapeutic siRNA payload. When mixed pursuant to a simple protocol, the particles self-assemble into siRNA containing nanoparticles.

Any siRNA sequence can be easily substituted Because RONDEL binds to the siRNA backbone, theoretically, any siRNA therapeutic could be in the second vial.

Stealthy delivery to the immune system The sugar-based delivery vehicle allows for repeat dosing without the risk of immune reactions. Unlike lipid delivery vehicles, the cyclodextrin-based RONDEL delivery system does not cause an interferon response.

Safety Has been shown to be non-toxic in *in-vitro* testing with human cell cultures, and the fully formulated polymer/siRNA particles exhibit a significant therapeutic window of safety in animals, even when repeated doses (up to eight doses over a four week period) are used. No serious adverse events have been observed in Calando s current Phase I clinical trial.

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Stable under physiological conditions Particles have been shown to be stable under physiological conditions.

Effective targeted delivery Calando and its partners have demonstrated successful delivery of functional siRNA therapeutics to tumor cells and to hepatocytes by systemic administration and confirmed sequence-specific gene inhibition in animal models.

CALAA-01

CALAA-001 is a combination of RONDEL and a patented siRNA targeting the M2 subunit of ribonucleotide reductase, a clinically-validated cancer target. Ribonucleotide reductase catalyzes the conversion of ribonucleosides to deoxyribonucleosides and is necessary for DNA synthesis and replication. The siRNA, developed at Calando, demonstrates potent anti-proliferative activity across multiple types of cancer cells. We believe the use of CALAA-001 in Calando s Phase I trial, initiated in June 2008, was the first siRNA therapeutic candidate to target cancer in a human clinical study and also the first systemic delivery of an siRNA therapeutic candidate. The trial is utilizing a dose escalation protocol which is nearing the highest dose in the protocol and yielding promising preliminary results. The trial is not currently enrolling new patients (for reasons other than safety or efficacy), but Calando expects to begin enrolling patients again in the near term. Calando plans to finish the Phase I trial, as capital resources allow, and is seeking a partner for the further development of both the siRNA delivery platform and CALAA-01.

Calando s Cyclosert™ Technology & IT-101

The other polymeric drug delivery technology, Cyclosert, was designed by Calando s scientists for the delivery of small molecule drugs. Cyclosert provides many of the same benefits as the RONDEL system. Calando completed a Phase 1 trial with IT-101, comprised of Calando s polymer and Camptothecin, a potent anti-cancer drug, with a positive safety profile and indications of efficacy. On June 23, 2009, Calando entered into agreements to license Cyclosert and IT-101 to Cerulean Pharma, Inc. (Cerulean), a Boston-based biotech company. Under the terms of the agreements, Calando granted Cerulean an exclusive royalty-bearing worldwide license to certain patent rights and know-how and transferred to Cerulean certain intellectual property related to the linear-cyclodextrin drug delivery platform and IT-101 in exchange for an initial payment of $2.4 million. Under the agreements, Calando retains the rights to use the linear-cyclodextrin drug delivery platform to deliver tubulysin, cytolysin (the rights to deliver both of which were sublicensed by Calando to R&D Biopharmaceuticals GmbH), second generation epothilones, as well as any kind of nucleic acid, e.g., a DNA or siRNA therapeutics. As such, Calando retains the rights to its RONDEL™ platform, as well as the CALAA-01 and CALAA-02 lead drugs. In connection with the Cerulean Agreements, Calando closed its Phase 2 clinical studies for IT-101.

Outsourced Clinical Trial Management, R&D, Manufacturing and Supply

Calando used contract manufacturers to manufacture each of its product candidates and has on hand sufficient material to complete the CALAA-01 Phase 1 study. These materials were manufactured in accordance with a quality control and quality assurance program, including a set of standard operating procedures and specifications, designed to ensure that its products are manufactured in accordance with current Good Manufacturing Procedures, or cGMPs, and other applicable domestic and foreign regulations. Currently, Calando has no laboratory facilities and is reliant on contract R&D facilities to support its clinical trial. Along with its internal resources, Calando uses consultants to manage and monitor its clinical trial. Calando has no plans to establish a laboratory or manufacturing facility and will continue to rely on third parties to meet these needs.

The development of CALAA-01, IT-101 and other pipeline candidates are preliminary, and there is no assurance that they will be successful. There are numerous technical, regulatory and marketing challenges that must be overcome to successfully commercialize Calando s products, including, but not limited to the following:

Advancing pipeline candidates requires extensive preclinical testing and approval by the U.S. Food and Drug Administration (FDA) before clinical testing can commence.

Advancing therapeutic candidates through preclinical and clinical testing is expensive, resource intensive and time consuming.

Complications may arise that would cause the clinical testing to be interrupted or stopped. FDA approval is required before products can be sold.

Even if FDA approval is eventually obtained, there is no assurance that it will be accepted by the medical community. It is not possible at this time to accurately determine the final cost of the development projects, the completion dates, or when or if revenue will commence.

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Intellectual Property

Calando controls an intellectual property portfolio of patents covering the linear cyclodextrin polymers and related technology (the linear cyclodextrin system). The portfolio covers both RONDEL and Cyclosert. In June 2008, Calando entered in to a drug-development partnership with Cerulean Pharma, Inc. (the Cerulean Deal). As part of the Cerulean Deal, Calando sold and assigned to Cerulean Pharma certain Calando owned-patents (Acquired IP) directed to linear cyclodextrin polymers conjugated to drugs. Additionally, Calando granted Cerulean an exclusive license under its right to the linear cyclodextrin system to develop certain drug products. However, excluded from the exclusive license to Cerulean are rights to use the linear cyclodextrin system to develop drugs in which the therapeutic agent is a nucleic acid (e.g., siRNA), a second generation epothilone, tubulysin or cytolysin. Additionally, Cerulean granted to Calando an exclusive fully paid up royalty free license under the Acquired IP to use the linear cyclodextrin system to develop drugs in which the therapeutic agent is a nucleic acid (e.g., siRNA), a second generation epothilone, tubulysin or cytolysin.

Calando also owns an issued patent covering the siRNA active ingredient in CALAA-01 and has filed a patent application to cover the siRNA active ingredient of CALAA-02. Calando has licensed patents from Alnylam relevant to siRNA therapeutics for CALAA-01 and CALAA-02. Calando has in-licensed from R&D Pharmaceuticals exclusive rights to second generation synthetic epothilones. Calando has out licensed to R&D the use of the linear cyclodextrin system for delivering tubulysin and cytolysin drugs. In any case, the RNAi and nanoparticle drug delivery patent landscape is complex and rapidly evolving. As such, Calando may need to obtain additional patent licenses prior to commercialization of its lead drug candidates.

The Drug Delivery and Oncology Markets

Despite advances in drug discovery, pharmaceutical firms remain challenged by getting the right compound to the right place in the human body, where it can maximize effect. Additionally, over the next decade, multiple blockbuster pharmaceuticals will go off patent, resulting in a significant loss to the pharmaceutical industry as generic versions of these drugs enter the market. Patent expiration coupled with a challenging drug discovery environment, and continued problems with late stage trial failures has left pharmaceutical pipelines thin. In response, the industry has pursued reformulation of existing or previously failed compounds using new drug delivery technology to expand pipelines and prolong patent life. The global drug delivery market for all delivery technologies is expected to exceed $67 billion in 2009. The market for targeted delivery of small molecule pharmaceuticals using particulate/liposomal delivery systems is estimated to grow to $4.8 billion in 2012. According to the American Cancer Society, cancer is the second leading cause of death in the United States and accounts for approximately one in every four deaths. The National Institutes of Health has estimated the direct medical cost of cancer to be in excess of $74 billion per year. Dose limiting toxicity, poor tissue specificity, and large effective distribution are major restrictive factors in effective cancer chemotherapy. Consequently, complete tumor response is not often achieved in patients receiving chemotherapy alone. This offers a potential for significant opportunity for firms developing technologies to more effectively deliver anti-cancer agents to malignant cells.

Competition

Calando is engaged in the rapidly changing business of developing treatments for human disease through the regulation of gene expression and delivery of proprietary novel cancer therapies. Competition in these fields is intense as other companies are developing therapies similar to our nanoparticle drug delivery systems, and targeting patient populations that are similar to the patient populations that are targeted by Calando. A number of companies are pursuing research and development programs relating to the emerging area of cancer therapies using nanoparticle conjugates and RNA interference. A number of these companies have filed patent applications in these areas. It is difficult to predict whether any of these companies will be successful in obtaining patent protection, whether the patent protection sought will address important aspects of the technology and to what extent these companies will be successful in their RNA interference efforts. New competitors may arise and we may not be aware of all competitors in this space. A number of Calando s competitors are more established and have greater resources than Calando does. Furthermore, even if Calando is successful in developing commercial products, it is possible that competitors will achieve greater market acceptance.

Systemic delivery of siRNA and other oligonucleotide therapeutics has proven critical for the success of all nucleic acid therapeutics. Naturally, multiple firms have recognized the problem of systemic siRNA delivery as a significant opportunity and other firms are developing products in this space. Companies developing siRNA delivery products include but are not limited to Alnylam, Merck, Roche, Tekmira, RXi Pharmaceuticals, PharmRX and Intradigm. Additionally, many academic groups are developing and may seek to commercialize siRNA delivery technologies.

Key Personnel

Christopher Anzalone, Ph.D., is the CEO of Calando. Dr. Anzalone is also the CEO of Arrowhead, Unidym, Tego, Nantope and Leonardo. Thomas Schluep, Sc.D., is the Chief Scientific Officer (CSO) of Calando.

Calando s Board of Directors consists of R. Bruce Stewart, Executive Chairman of Arrowhead, and Christopher Anzalone, CEO and director of Arrowhead, Nanotope and Leonardo, Edward W. Frykman, member of the Arrowhead Board. Dr. Bruce Given and Dr. Mostafa Analoui are independent board members.

As of September 30 2009, there were no full time employees at Calando. Two former employees of Calando have been hired by Arrowhead to help manage Calando s ongoing efforts.

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Agonn Systems, Inc.

Arrowhead founded Agonn in May 2008 to explore, develop and commercialize nanotechnology-based energy storage devices for electric vehicles and other large format applications. Leveraging Arrowhead s expertise in carbon nanotubes, Agonn was pursuing a strategy to acquire energy storage technologies based on nanoscale engineering from research institutions and outsourced testing of various prototypes. As part of Arrowhead s strategy to conserve cash in 2009, Agonn curtailed its development efforts and its current efforts are minimal. At September 30, 2009, Agonn had no facilities or employees and is managed by Arrowhead.

Tego BioSciences Corporation

Tego s primary asset is an intellectual property portfolio which includes key patents for the modification of fullerenes, a family of symmetrical carbon-cage molecules with antioxidant properties. In order to exploit the therapeutic potential of fullerenes, they must first be chemically modified to render them water-soluble. A patented process, known as the Bingel reaction is of particular significance to fullerene chemistry because it enables modification of the fullerene sphere to provide solubility and appropriate physiologic behavior. Tego has a sole license to a patent directed at the Bingel reaction itself, as well as a large number of modified soluble fullerenes created through its use. Tego also owns or has exclusive licenses to patents directed to a variety of medical uses of Bingel-modified fullerenes. Tego is pursuing a strategy of partnering and licensing its intellectual property and has terminated its research and development efforts. As of September 30, 2009, Tego had no employees or facilities and is managed by Arrowhead.

In line with this strategy, on July 1, 2009, Tego exclusively licensed to The Bronx Project, Inc. (TBP), a development stage pharmaceutical company, the rights to develop and commercialize carboxylated fullerenes, e.g., the fullerene C3, in the fields of Parkinson s disease, amyotrophic lateral sclerosis (or Lou Gehrig s disease), multiple sclerosis, brain trauma and schizophrenia. TBP was founded to commercialize the work of Dr. Laura Dugan, Associate Professor of Medicine at the University of California, San Diego. Dr. Dugan has published numerous papers in peer-reviewed scientific journals on the use of fullerenes as potential neuroprotective therapeutics to counteract the deleterious role of free radicals in neurodegenerative diseases. The TBP License provides Tego with $100,000 in upfront fees, $2.35 million in potential milestone payments and royalties, as well as 5% of the proceeds of a sale of TBP itself to a third party.

Minority Investments

Nanotope, Inc.

Overview

Nanotope is a company in the field of regenerative medicine developing a suite of products customized to regenerate specific tissues; including neuronal, vascular, bone, myocardial, and cartilage. Its two lead clinical candidates are focused on spinal cord regeneration and treatment of peripheral artery disease (PAD). PAD causes the loss of vasculature in the extremities and it has been estimated that as many as 20% of people over the age of 70 have some form of PAD. Currently there is no treatment for regenerating lost vasculature. Nanotope has demonstrated in multiple animal models that injection of its angiogenic compound leads to revascularization of affected areas. Importantly, neither the spinal cord nor PAD treatments use stem cells. Nanotope s products work with surviving cells and tissues to spur regeneration.

The Company acquired its initial stake in Nanotope from a Nanotope shareholder in April 2008 and increased its position through a direct investment of $2 million in two tranches of $1 million each in July 2008 and in September 2008. At September 30, 2009, the Company owned 22% of Nanotope s outstanding securities. The Company is interested in increasing its stake in Nanotope if the opportunity arises, the Company has the capital resources and Nanotope s technology development continues to move forward.

Related Party Interests

Nanotope was co-founded by the Company s President and Chief Executive Officer, Dr. Christopher Anzalone, through the Benet Group, a private investment entity solely owned and managed by Dr. Anzalone. Through the Benet Group, Dr. Anzalone owns approximately 14.2% of Nanotope s outstanding voting securities. Dr. Anzalone does not hold options, warrants or any other rights to acquire securities of Nanotope directly or through the Benet Group. The Benet Group has the right to appoint a representative to the Board of Directors of Nanotope. Dr. Anzalone currently serves on the Nanotope Board in a seat reserved for Nanotope s CEO and another individual holds the seat designated by the Benet Group. Dr. Anzalone has served as President and Chief Executive Officer of Nanotope since its formation and continues to serve in these capacities. Dr. Anzalone has not received any compensation for his work on behalf of Nanotope since joining the Company on December 1, 2007. Dr. Anzalone has also waived his right to any unpaid compensation accrued for work done on behalf of Nanotope before he joined the Company.

Leonardo Biosystems, Inc.

Overview

Leonardo is a drug delivery company that employs a novel multi-layer drug delivery mechanism aimed at dramatically increasing targeting efficiency. The Company currently owns 6% of Leonardo. Leonardo s silicon microparticulate technology

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involves transporting a therapeutic agent past multiple biological barriers using multiple carriers, each optimized for a specific barrier. Leonardo s proprietary primary vehicles are designed to preferentially accumulate at tumor vasculature. Secondary carriers are then released from the primary carriers that are designed to accumulate around tumor cells and release their therapeutic payloads. Animal testing suggests that Leonardo s platform enables significantly increased targeting. The Company is interested in increasing its stake in Leonardo if the opportunity arises, the Company has the capital resources and Leonardo s technology development continues to move forward.

Related Party Interests

Like Nanotope, Leonardo was co-founded by the Company s President and Chief Executive Officer, Dr. Christopher Anzalone, through the Benet Group, a private investment entity solely owned and managed by Dr. Anzalone. Through the Benet Group, Dr. Anzalone owns approximately 17% of the outstanding stock of Leonardo. Dr. Anzalone does not hold options, warrants or any other rights to acquire securities of Leonardo directly or through the Benet Group. The Benet Group has the right to appoint a representative to the Board of Directors of Leonardo. Dr. Anzalone currently serves on the Leonardo Board in a seat reserved for Leonardo s CEO and another individual holds the seat designated by the Benet Group. Dr. Anzalone has served as President and Chief Executive Officer of Leonardo since its formation and continues to serve in these capacities. Dr. Anzalone has not received any compensation for his work on behalf of Leonardo since joining the Company on December 1, 2007. Dr. Anzalone has also waived his right to any unpaid compensation accrued for work done on behalf of Leonardo before he joined the Company.

Academic Partnerships

Since inception, Arrowhead has worked with some of the most outstanding academic institutions in the country, including the California Institute of Technology (Caltech), Stanford University, Duke University and the University of Florida, in critical areas such as stem cell research, carbon electronics and molecular diagnostics. This has provided the Company with a deep network in the academic community, insight into cutting edge technologies and a world class scientific advisory board. Through these partnerships, Arrowhead has gained access to exclusive rights that have formed the basis for the Company s subsidiaries and minority investments and has leveraged university resources to further develop and test technology in a highly cost effective way. The collaborations with academic scientists have included technology licenses and options to license technology, sponsored research, donations to the labs of individual scientists and use of university facilities that are made available to development stage companies. In prior years, Arrowhead devoted significant capital resources to sponsored research. As the Subsidiaries have matured, the Company has decreased its reliance on sponsored research for technology development and sponsored research expense has decreased. As of September 30, 2009, Arrowhead had one active sponsored research agreement at Duke University through Unidym. Depending on capital resources, Arrowhead is likely to continue to invest in nanoscience research and development through sponsored research agreements at universities.

ITEM 1A. RISK FACTORS

We are a development stage company and we have limited historical operations. We urge you to consider our likelihood of success and prospects in light of the risks, expenses and difficulties frequently encountered by entities at similar stages of development.

The following is a summary of certain risks we face. They are not the only risks we face. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations. The trading price of our common stock could decline due to the occurrence of any of these risks, and investors could lose all or part of their investment. In assessing these risks, investors should also refer to the other information contained or incorporated by reference in our other filings with the Securities and Exchange Commission.

Risks Related to Our Financial Condition

We do not have sufficient cash reserves to fund our activities at their current pace beyond the next fiscal year.

Our plan of operations is to provide substantial amounts of development funding and financial support for our majority-owned subsidiaries over an extended period of time. Our Board of Directors adopted a cash conservation strategy that scaled back our financial support for our majority-owned subsidiaries, Unidym and Calando. This has influenced Unidym s decision to engage partners for its capital-intensive bulk CNT manufacturing and concentrate its resources on its CNT inks and CNT-based film products. Calando s Board of Directors has determined to partner future development efforts for its drug delivery platforms and clinical candidates. Management has developed a plan based upon the latest financing (See Note 15 Subsequent Events) which includes the December 2009 financing and several other transactions which are expected to close in the near term. The plan shows that the Company has enough cash to fund all operations through September 30, 2010.

Should a shortfall occur in expected cash receipts, the plan has contingencies to reduce operations in order to operate through September 30, 2010 without additional financing.

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We may need to obtain additional capital to support our projects, and we may plan to do so by out-licensing technology, selling one or more of our subsidiaries, securing funded partnerships, conducting one or more private placements of equity securities of the Company or our subsidiaries, selling additional securities in a registered public offering, or through a combination of one or more of such financing alternatives. However, there can be no assurance that we will be successful in any of these endeavors or, if we are successful, that such transactions will be accomplished on favorable terms. If we are unable to obtain additional capital, we will be required to implement additional cash saving measures by limiting further activities at Unidym, or at the Company, which could materially harm our business and our ability to achieve cash flow in the future, including delaying or reducing implementation of certain aspects of our plan of operations. Even if we are successful in obtaining additional capital, because we and each subsidiary are separate entities, it could be difficult or impossible to allocate funds in a way that meets the needs of all entities.

A substantial portion of Unidym s intellectual property is licensed from Rice University and the Rice license includes an insolvency provision.

Through its merger with Carbon Nanotechnologies, Inc. (CNI), Unidym acquired a license to certain intellectual property from Rice University. Under the license, Unidym must meet a solvency test in order to retain the rights to the licensed technology. Although Unidym is not insolvent at this time, if Unidym does not obtain additional capital, it is likely that it would become insolvent and the Rice license would be subject to potential termination. If the Rice license terminates, Unidym would lose exclusivity in the fields of use covered by the Rice license and its business would be materially and irrevocably harmed. In this case, the likelihood that the Company would realize any return on its investment in Unidym would be substantially diminished, if not eliminated entirely. This would likely materially and irrevocably harm the value of the Company.

The current financial market conditions may exacerbate certain risks affecting our business.

Neither the Company nor our subsidiaries generate substantial revenue, and, to date, our operations, research and development activities have been primarily funded through the sale of Company securities and securities of our subsidiaries. Current market conditions are likely to impair our ability to raise the capital we need. If we are unable to secure additional cash resources from the sale of securities or other sources, it could become necessary to further slow, interrupt or close down development efforts at Unidym. In addition, we may have to make additional cuts in expenses at the Company, which could impair our ability to manage our business and our subsidiaries. Even if investment capital is available to us, the terms may be onerous in light of the state of the current market. If investment capital is needed and available to Unidym and/or Calando and the Company does not have the funds to make a pro rata investment, our ownership interest could be significantly diluted. The sale of additional Company stock to fund operations could result in significant dilution to stockholders.

The strategy for eventual monetization of our subsidiaries will likely depend on our ability to exit our ownership position in each subsidiary in an orderly manner. Exit opportunities could include an initial public offering (IPO) for the subsidiary or acquisition of the subsidiary by another company. Due to the current economic climate, companies are adopting conservative acquisition strategies and, even if there is interest, they may not be able to acquire our subsidiaries on terms that are attractive to us, if at all. These factors could reduce the realizable return on our investment if we are able to sell a subsidiary. Additionally, the market for IPOs is severely limited, which limits public exit opportunities for our subsidiaries.

Our business may be harmed if we cannot maintain our listing on the NASDAQ Capital Market.

To maintain our listing on the NASDAQ Capital Market we must satisfy certain minimum financial and other continued listing standards, including, among other requirements, (i) a $1.00 minimum bid price requirement and (ii) a $2.5 million minimum stockholders equity requirement, $500,000 minimum net income requirement or $35 million minimum market value of listed securities requirement. As of December 15, 2009, the bid price of our Common Stock was $0.51 per share and our market value for listed securities was approximately $29 million. At September 30, 2009 our stockholders equity was $4.8 million and our net loss was $19.3 million for the fiscal year ended September 30, 2009. We previously received a notice of non-compliance from NASDAQ regarding our stockholders equity. On August 11, 2009, NASDAQ informed the Company that our stockholders equity as of June 30, 2009 ($3.7 million) complied with NASDAQ Listing Rules. However, it is possible going forward that NASDAQ may decide our stockholders equity is insufficient for continued compliance. We may face deficiencies in our stockholders equity in the future and, if we cannot resolve such deficiencies, our Common Stock could be delisted from the NASDAQ Capital Market. As of July 31, 2009, NASDAQ reinstated the $1.00 minimum bid requirement for continued listing.

On September 18, 2009, we received a deficiency letter from the NASDAQ Stock Market indicating that, based on our closing bid price for the last 30 consecutive business days, we did not comply with the $1.00 minimum bid price as set forth in NASDAQ Marketplace Rule 5550(a)(2). In accordance with NASDAQ Marketplace Rule 5810(c)(3)(A), we have been provided a grace period of 180 calendar days, or until March 15, 2010, to regain compliance by maintaining a minimum closing bid price of $1.00 per share for 10 consecutive business days. As of December 15, 2009, our Common Stock was trading at $0.51, which is below the $1.00 minimum bid price requirement. As a result, we may

need to effect a reverse stock split to raise our stock price over $1.00 to regain compliance with NASDAQ Listing Rules. At a special meeting of stockholders on October 6, 2009, a proposal was approved giving authority to our Board of Directors to effect a reverse stock split of our Common Stock in the range of 1:2 to 1:15, if deemed necessary. Despite the ability of the Board of Directors to effect a reverse stock split if necessary, there is no assurance that such a reverse stock split would in fact enable us to meet the $1.00 minimum bid price requirement and stockholders may suffer a decline in value of their shares as many stocks do not trade at or above the implied post-split price.

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In addition, because of cash constraints, we may have to go dark and stop filing reports with the SEC. If we stop filing reports with the SEC, that would negatively affect our stockholders ability to sell their shares. In addition, we would be under breach of certain agreements if we stop filing reports with the SEC, which would expose us to potential legal action.

If our Common Stock is delisted by, or we voluntarily delist from NASDAQ, our Common Stock may be eligible to trade on the OTC Bulletin Board or the Pink OTC Markets. In such an event, it could become more difficult to dispose of, or obtain accurate quotations for the price of our Common Stock, and there would likely also be a reduction in profile in the investment community and the news media, which could cause the price of our Common Stock to decline further.

As a consequence, our inability to maintain our listing on NASDAQ could also adversely affect our ability to obtain financing for the continuation of our operations and could result in a loss of confidence by investors, suppliers and employees. In addition, our stockholders ability to trade or obtain quotations on our shares could be severely limited because of lower trading volumes and transaction delays. These factors could contribute to lower prices and larger spreads in the bid and ask price for our Common Stock.

We have debt on our consolidated balance sheet, which could have consequences if we were unable to repay the principal or interest due.

Unidym. We have debt on our consolidated balance sheet, including a capital lease obligation acquired in connection with Unidym s acquisition of Nanoconduction, Inc. As of September 30, 2009, the capital lease obligation requires us to pay a total of $750,000 in 10 monthly payments of $75,000 each for capital equipment at Unidym s Sunnyvale, California location and the equipment itself serves as collateral for the debt. Unidym s ability to make payments on its indebtedness will depend on its ability to conserve the cash that it has on hand and to generate cash in the future. Neither Unidym nor the Company currently generates significant revenue. Because Unidym does not currently have a substantial amount of cash on hand, Unidym might be required to divert cash from development activities or to generate cash via debt or equity financing to be able to meet the monthly payment requirements under the capital lease obligation. This, to some extent, is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. Also, given the current economic climate, financing options might be limited going forward, which could prevent Unidym from obtaining the necessary funds to pay its indebtedness when due. Because the equipment serves as collateral for the debt, if Unidym is unable to make the monthly payments when due, the lessor of the equipment, at its discretion, may seize the equipment and Unidym would not be able to use the equipment in its development activities.

Calando. Calando has a $500,000 unsecured convertible promissory note outstanding. The note bears 10% interest accrued annually and has a two-year maturity. The note is also payable at two times face value in certain events, including, among other things, the license of Calando s siRNA delivery system. Following maturity, the note becomes payable on demand. If Calando is unable to meet its obligations to the bearer of the note after maturity, we may also not be in a position to lend Calando sufficient cash to pay such demand note. Unless other sources of financing become available, this could result in Calando s insolvency.

Our subsidiaries have entered into technology license agreements with third parties that require us to satisfy obligations to keep them effective, and if these agreements are terminated, our technology and our business would be seriously and adversely affected.

Through our subsidiaries, we have entered into exclusive, long-term license agreements with Rice University, California Institute of Technology, Alnylam Pharmaceuticals, Inc. and other entities to incorporate their proprietary technologies into our proposed products. These license agreements require us to pay royalties and satisfy other conditions, including conditions related to the commercialization of the licensed technology. We cannot give any assurance that we will successfully incorporate these technologies into marketable products or, if we do, whether sales will be sufficient to recover the amounts that we are obligated to pay to the licensors. Failure by us to satisfy our obligations under these agreements may result in the modification of the terms of the licenses, such as by rendering them non-exclusive, or may give our licensors the right to terminate their respective agreement with us, which would limit our ability to implement our current business plan and harm our business and financial condition.

Risks Related to Our Business Model and Company

We are a development stage company and our success is subject to the substantial risks inherent in the establishment of a new business venture.

The implementation of our business strategy is still in the development stage. We currently own majority interests in two subsidiary companies, 100% ownership interest in the non-operating subsidiaries, investments in two early stage biotech companies and, through Unidym, one university research project at Duke University. Our business and operations should be considered to be in the development stage and subject to all of the risks inherent in the establishment of a new business venture. Accordingly, our intended business and operations may not prove to be successful in the near future, if at all. Any future success that we might enjoy will depend upon many factors, several of which may be beyond

our control, or which cannot be predicted at this time, and which could have a material adverse effect upon our financial condition, business prospects and operations and the value of an investment in the company.

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The costs to fund the operations of Unidym is difficult to predict, and our anticipated expenditures in support of Unidym may increase or decrease for a variety of reasons.

Development, manufacturing and sale of cost-effective electronic products incorporating carbon nanotubes may require significant additional investment and take a long time. It is possible that the development and scale up of Unidym s carbon nanotube manufacturing effort and its development and scale up of its transparent conductive film products could be delayed for a number of reasons, including unforeseen difficulties with the technology development and delays in adoption of the technology by customers. Any delay would result in additional unforeseen costs, which would harm our results of operations. Due to these uncertainties, we cannot reasonably estimate the size, nature or timing of the costs to complete the development of Unidym s products or net cash inflows from Unidym s current activities.

Calando may be unable to find additional partners to license its technologies.

As part of our cash conservation strategy that scales back our financial support for Calando at this time, Calando has closed its laboratory facilities, eliminated its technical employees and has shifted its focus to licensing its technologies to partners. Currently, Calando has one licensing partner, but there can be no assurance that Calando will be able to find additional partners to license its technologies upon terms favorable to Calando.

If Calando licenses its technologies, it will lose a considerable amount of control over its intellectual property and may not receive adequate licensing revenues in exchange.

The business model of our subsidiaries has historically been to develop new nanotechnologies and to exploit the intellectual property created through the research and development process to develop commercially successful products. Calando has licensed a portion of its technology to Cerulean Pharma, Inc. and intends to pursue further licensing arrangements with other companies. As Calando licenses its technology to other companies, it will lose control over certain of the technologies it licenses and will be unable to significantly direct the commercialization of its technologies. In addition, Calando s licensees may not be successful in the further commercialization of Calando s technologies and anticipated revenues from such license agreements may be less than expected or may not be paid at all.

There are substantial inherent risks in attempting to commercialize new technological applications, and, as a result, we may not be able to successfully develop nanotechnology for commercial use.

The Company finances research and development of nanotechnology, which is a new and unproven field. Our scientists and engineers are working on developing technology in various stages. However, such technology s commercial feasibility and acceptance is unknown. Scientific research and development requires significant amounts of capital and takes an extremely long time to reach commercial viability, if at all. To date, our research and development projects have not produced commercially viable applications, and may never do so. During the research and development process, we may experience technological barriers that we may be unable to overcome. For example, our scientists must determine how to design and develop nanotechnology applications for potential products designed by third parties for use in cost-effective manufacturing processes. Because of these uncertainties, it is possible that none of our potential applications will be successfully developed. If we are unable to successfully develop nanotechnology applications for commercial use, we will be unable to generate revenue or build a sustainable or profitable business.

Because we have not generated significant revenues to cover our operating expenses, we are dependent on raising additional capital from investors or lenders.

To date, we have only generated a small amount of revenue as a result of our current plan of operations. Given our strategy of financing new and unproven technology research, there is no assurance we would ever generate significant revenues. Our revenue-producing opportunities depend on liquidity events within our subsidiaries, such as a sale of the subsidiary, licensing transaction or initial public offering. We cannot be certain that we will be able to create a liquidity event for any of our subsidiaries and, even if we are able to, we cannot be certain of the timing or the potential proceeds to Arrowhead as a stockholder. Accordingly, our revenue prospects are uncertain and we must plan to finance our operations through the sales of equity securities or debt financing. If we are unable to continue raising operating capital from these sources, we may be forced to curtail or cease our operations.

We will need to achieve commercial acceptance of our applications to generate revenues and achieve profitability.

Even if our research and development yields technologically feasible applications, we may not successfully develop commercial products, and even if we do, we may not do so on a timely basis. If our research efforts are successful on the technology side, it could take at least several years before this technology will be commercially viable. During this period, superior competitive technologies may be introduced or customer

needs may change, which will diminish or extinguish the commercial uses for our applications. Because nanotechnology is an emerging field, the degree to which potential consumers will adopt nanotechnology-enabled products is uncertain. We cannot predict when significant commercial market acceptance for nanotechnology-enabled products will develop, if at all, and we cannot reliably estimate the projected size of any such potential market. If markets fail to accept nanotechnology-enabled products, we may not be able to generate revenues from the commercial application of our technologies. Our revenue growth and achievement of profitability will depend substantially on our ability to introduce new technological applications to manufacturers for products accepted by customers. If we are unable to cost-effectively achieve acceptance of our technology among original equipment manufacturers and customers, or if the associated products do not achieve wide market acceptance, our business will be materially and adversely affected.

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We will need to establish additional relationships with strategic and development partners to fully develop and market our products.

We do not possess all of the resources necessary to develop and commercialize products that may result from our technologies on a mass scale. Unless we expand our product development capacity and enhance our internal marketing, we will need to make appropriate arrangements with strategic partners to develop and commercialize current and future products. If we do not find appropriate partners, or if our existing arrangements or future agreements are not successful, our ability to develop and commercialize products could be adversely affected. Even if we are able to find collaborative partners, the overall success of the development and commercialization of product candidates in those programs will depend largely on the efforts of other parties and is beyond our control. In addition, in the event we pursue our commercialization strategy through collaboration, there are a variety of attendant technical, business and legal risks, including:

- a development partner would likely gain access to our proprietary information, potentially enabling the partner to develop products without us or design around our intellectual property;
- we may not be able to control the amount and timing of resources that our collaborators may be willing or able to devote to the development or commercialization of our product candidates or to their marketing and distribution; and
- disputes may arise between us and our collaborators that result in the delay or termination of the research, development or commercialization of our product candidates or that result in costly litigation or arbitration that diverts our management s resources.

The occurrence of any of the above risks could impair our ability to generate revenues and harm our business and financial condition.

We need to retain a controlling interest, by ownership, contract or otherwise, in Unidym and Calando in order to avoid potentially being deemed an investment company under the Investment Company Act of 1940.

Companies that have more than 100 U.S. stockholders or are publicly traded in the U.S. or are, or hold themselves out as being, engaged primarily in the business of investing, reinvesting or trading in securities are subject to regulation under the Investment Company Act of 1940. Unless a substantial part of our assets consists of, and a substantial part of our income is derived from, interests in majority-owned subsidiaries and companies that we primarily control, whether by contract or otherwise, we may be required to register and become subject to regulation under the Investment Company Act. Because Investment Company Act regulation is, for the most part, inconsistent with our strategy of actively managing and operating our portfolio companies, a requirement to operate our business as a registered investment company would restrict our operations and require additional resources for compliance.

If we are deemed to be, and are required to register as, an investment company, we will be forced to comply with substantive requirements under the Investment Company Act, including:

- limitations on our ability to borrow;
- limitations on our capital structure;
- restrictions on acquisitions of interests in associated companies;
- prohibitions on transactions with our affiliates;
- restrictions on specific investments; and

compliance with reporting, record keeping, voting, proxy disclosure and other rules and regulations.

In order to avoid regulation under the Investment Company Act, we may choose to make additional pro rata investments in Unidym and Calando to maintain a controlling interest.

Nanotechnology-enabled products are new and may be viewed as being harmful to human health or the environment.

There is public concern regarding the human health, environmental and ethical implications of nanotechnology that could impede market acceptance of products developed through these means. Nanotechnology-enabled products could be composed of materials such as carbon, silicon, silicon carbide, germanium, gallium arsenide, gallium nitride, cadmium selenide or indium phosphide, which may prove to be unsafe or harmful to human health or to the environment because of the size, shape or composition of the nanostructures. For this reason, these nanostructures may prove to present risks to human health or the environment that are different from and greater than the better understood risks that may be presented by the constituent materials in non-nanoscale forms. Because of the potential, but at this point unknown, risks associated with certain nanomaterials, government authorities in the U.S. or individual states, and foreign government authorities could, for social or other purposes, prohibit or regulate the use of some or all nanotechnologies. The U.S. Environmental Protection Agency has in that regard recently taken steps towards regulation of the manufacture and use of certain nanotechnology-enabled materials, including those containing carbon nanotubes or nanosilver. Further, the U.S. National Academy of Sciences/National Research Council concluded that the U.S. government needs to develop a more robust and coordinated plan for addressing the potential environmental, health, and safety risks of nanomaterials. The regulation and limitation of the kinds of materials used in or used to develop nanotechnology-enabled products, or the regulation of the products themselves, could halt or delay the commercialization of nanotechnology-enabled products or substantially increase the cost, which will impair our ability to achieve revenue from the license of nanotechnology applications.

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We may not be able to effectively secure first-tier research and development projects when competing against other ventures.

We compete with a substantial number of other companies that fund early-stage, scientific research at universities to secure rights to promising technologies. In addition, many venture capital firms and other institutional investors invest in companies seeking to commercialize various types of emerging technologies. Many of these companies have greater resources than we do. Therefore, we may not be able to secure the opportunity to finance first-tier research and commercialization projects. Furthermore, should any commercial undertaking by us prove to be successful, there can be no assurance competitors with greater financial resources will not offer competitive products and/or technologies.

We rely on outside sources for various components and processes for our products.

We rely on third parties for various components and processes for our products. While we try to have at least two sources for each component and process, we may not be able to achieve multiple sourcing because there may be no acceptable second source, other companies may choose not to work with us, or the component or process sought may be so new that a second source does not exist, or does not exist on acceptable terms. In addition, due to the recent tightening of global credit and the disruption in the financial markets, there may be a disruption or delay in the performance of our third-party contractors, suppliers or collaborators. If such third parties are unable to satisfy their commitments to us, our business would be adversely affected. Therefore, it is possible that our business plans will have to be slowed down or stopped completely at times due to our inability to obtain required raw materials, components and outsourced processes at an acceptable cost, if at all, or to get a timely response from vendors.

We must overcome the many obstacles associated with integrating and operating varying business ventures to succeed.

Our model to integrate and oversee the strategic direction of various subsidiaries and research and development projects presents many risks, including:

- the difficulty of integrating operations and personnel; and
- the diversion of our management s attention as a result of evaluating, negotiating and integrating acquisitions or new business ventures.

If we are unable to timely and efficiently design and integrate administrative and operational support for our subsidiaries, we may be unable to manage projects effectively, which could adversely affect our ability to meet our business objectives and the value of an investment in the Company could decline.

In addition, consummating acquisitions and taking advantage of strategic relationships could adversely impact our cash position, and dilute stockholder interests, for many reasons, including:

- changes to our income to reflect the amortization of acquired intangible assets, including goodwill;
- interest costs and debt service requirements for any debt incurred to fund our growth strategy; and
- any issuance of securities to fund our operations or growth, which dilutes or lessens the rights of current stockholders.

Our success depends on the attraction and retention of senior management and scientists with relevant expertise.

Our future success will depend to a significant extent on the continued services of our key employees. In addition, we rely on several key executives to manage each of our subsidiaries. We do not maintain key man life insurance for any of our executives. Our ability to execute our strategy also will depend on our ability to continue to attract and retain qualified scientists, sales, marketing and additional managerial personnel. If we are unable to find, hire and retain qualified individuals, we could have difficulty implementing our business plan in a timely manner, or at all. Given the Company s current financial constraints, we may need to terminate additional employees, including senior management and

technical employees, or such employees may seek other employment. With these and past reductions, it is possible that valuable know-how will be lost and that development efforts could be negatively affected.

Members of our senior management team and Board may have a conflict of interest in also serving as officers and/or directors of our subsidiaries.

While we expect that our officers and directors who also serve as officers and/or directors of our subsidiaries will comply with their fiduciary duties owed to our stockholders, they may have conflicting fiduciary obligations to our stockholders and the minority stockholders of our subsidiaries. Specifically, Dr. Anzalone, our CEO and President, is the founder, CEO and a board member of each of Nanotope, Inc. (Nanotope), a regenerative medicine company that is separately financed in which the Company owns a 22% interest, and Leonardo Biosystems, Inc. (Leonardo), a drug delivery company that is separately financed in which the Company owns a 6% interest. Dr. Anzalone owns a minority interest in the stock of each of Nanotope and Leonardo. To the extent that any of our directors choose to recuse themselves from particular Board actions to avoid a conflict of interest, the other members of our Board of Directors will have a greater influence on such decisions.

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Our efforts pertaining to the pharmaceutical industry are subject to additional risks.

Our subsidiaries, Calando and Tego, as well as minority investments Nanotope and Leonardo, are focused on technology related to new and improved pharmaceutical candidates. Drug development is time consuming, expensive and risky. Even product candidates that appear promising in the early phases of development, such as in early animal and human clinical trials, often fail to reach the market for a number of reasons, such as:

- clinical trial results are not acceptable, even though preclinical trial results were promising;
- inefficacy and/or harmful side effects in humans or animals;
- the necessary regulatory bodies, such as the U.S. Food and Drug Administration, did not approve our potential product for the intended use; and
- manufacturing and distribution is uneconomical.

Clinical trial results are frequently susceptible to varying interpretations by scientists, medical personnel, regulatory personnel, statisticians and others, which often delays, limits, or prevents further clinical development or regulatory approvals of potential products. If the subsidiaries technology is not cost effective or if the associated drug products do not achieve wide market acceptance, the value of a subsidiary would be materially and adversely affected.

Any drugs developed by our subsidiaries may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, thereby harming our business.

Increasing expenditures for healthcare have been the subject of considerable public attention in the U.S. Both private and government entities are seeking ways to reduce or contain healthcare costs. Numerous proposals that would affect changes in the U.S. healthcare system have been introduced or proposed in Congress and in some state legislatures, including reductions in the cost of prescription products and changes in the levels at which consumers and healthcare providers are reimbursed for purchases of pharmaceutical products.

The ability of Calando, Tego and our minority investments Nanotope and Leonardo to market products successfully (either on their own or in partnership with other companies) will depend in part on the extent to which third-party payers are willing to reimburse patients for the costs of their products and related treatments. These third-party payers include government authorities, private health insurers and other organizations, such as health maintenance organizations. Third party payers are increasingly challenging the prices charged for medical products and services. In addition, the trend toward managed healthcare and government insurance programs could result in lower prices and reduced demand for the products of these companies. Cost containment measures instituted by healthcare providers and any general healthcare reform could affect their ability to sell products and may have a material adverse effect on them, thereby diminishing the value of the Company s interest in these subsidiaries or any anticipated milestone or royalty payments. We cannot predict the effect of future legislation or regulation concerning the healthcare industry and third party coverage and reimbursement on our business.

There may be a difference in the investment valuations that we used when making initial and subsequent investments in our subsidiaries and minority investments and actual market values.

Our investments in our subsidiaries and minority interests were the result of negotiation with subsidiary management and equity holders, and the investment valuations were not independently verified. Traditional methods used by independent valuation analysts include a discounted cash flow analysis and a comparable company analysis. We have not generated a positive cash flow to date and do not expect to generate significant cash flow in the near future. Additionally, we believe that there exist comparable public companies to provide a meaningful valuation comparison. Accordingly, we have not sought independent valuation analysis in connection with our investments and may have invested in our various holdings at higher or lower valuations than an independent source would have recommended. There may be no correlation between the investment valuations that we used over the years for our investments and the actual market values. If we should eventually sell all or a part of any of our consolidated business or that of a subsidiary, the ultimate sale price may be for a value substantially lower or higher than previously determined by us, which could materially and adversely impair the value of our Common Stock.

Risks Related to Our Intellectual Property

If Unidym is unable to raise additional cash or pay its debts, Unidym may lose rights to critical intellectual property.

Unidym is required to meet certain financial covenants pursuant to the Rice University license agreement Unidym acquired upon its acquisition of CNI. When Unidym acquired CNI, CNI possessed intellectual property rights concerning carbon nanotubes that it had licensed from Rice University. The Rice license includes financial covenants tested quarterly for compliance. If Unidym fails to meet the financial covenants, the Rice license automatically terminates. If this should happen, the value of Unidym s intellectual property portfolio would be significantly and adversely affected and Unidym would likely lose patent protection for its products and licensing opportunities for the majority of its CNT intellectual portfolio.

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Our ability to protect our patents and other proprietary rights is uncertain, exposing us to the possible loss of competitive advantage.

Our subsidiaries have licensed rights to pending patents and have filed and will continue to file patent applications. The researchers sponsored by us may also file patent applications that we choose to license. If a particular patent is not granted, the value of the invention described in the patent would be diminished. Further, even if these patents are granted, they may be difficult to enforce. Even if successful, efforts to enforce our patent rights could be expensive, distracting for management, cause our patents to be invalidated, and frustrate commercialization of products. Additionally, even if patents are issued and are enforceable, others may independently develop similar, superior or parallel technologies to any technology developed by us, or our technology may prove to infringe upon patents or rights owned by others. Thus, the patents held by or licensed to us may not afford us any meaningful competitive advantage. If we are unable to derive value from our licensed or owned intellectual property, the value of your investment may decline.

Our ability to develop and commercialize products will depend on our ability to enforce our intellectual property rights and operate without infringing the proprietary rights of third parties.

Our ability and the ability of our subsidiaries to develop and commercialize products based on their respective patent portfolios, will depend, in part, on our ability and the ability of our subsidiaries to enforce those patents and operate without infringing the proprietary rights of third parties. There can be no assurance that any patents that may issue from patent applications owned or licensed by us or any of our subsidiaries will provide sufficient protection to conduct our respective businesses as presently conducted or as proposed to be conducted, or that we or our subsidiaries will remain free from infringement claims by third parties.

We may be subject to patent infringement claims, which could result in substantial costs and liability and prevent us from commercializing our potential products.

Because the nanotechnology intellectual property landscape is rapidly evolving and interdisciplinary, it is difficult to conclusively assess our freedom to operate without infringing on third party rights. However, we are currently aware of certain patent rights held by third parties that, if found to be valid and enforceable, could be alleged to render one or more of our business lines infringing. If a claim should be brought and is successful, we may be required to pay substantial damages, be forced to abandon any affected business lines and/or seek a license from the patent holder. In addition, any patent infringement claims brought against us or our subsidiaries, whether or not successful, may cause us to incur significant expenses and divert the attention of our management and key personnel from other business concerns. These could negatively affect our results of operations and prospects. There can also be no assurance that patents owned or licensed by us or our subsidiaries will not be challenged by others.

In addition, if our potential products infringe the intellectual property rights of third parties, these third parties may assert infringement claims against our customers, and we may be required to indemnify our customers for any damages they suffer as a result of these claims. The claims may require us to initiate or defend protracted and costly litigation on behalf of customers, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers or may be required to obtain licenses for the products they use. If we cannot obtain all necessary licenses on commercially reasonable terms, we may be unable to continue selling such products.

The technology licensed by our subsidiaries from various third parties may be subject to government rights and retained rights of the originating research institutions.

We license technology from Caltech, Rice University, and other universities and companies. Our licensors may have obligations to government agencies or universities. Under their agreements, a government agency or university may obtain certain rights over the technology that we have developed and licensed, including the right to require that a compulsory license be granted to one or more third parties selected by the government agency.

In addition, our collaborators often retain certain rights under their agreements with us, including the right to use the underlying technology for noncommercial academic and research use, to publish general scientific findings from research related to the technology, and to make customary scientific and scholarly disclosures of information relating to the technology. It is difficult to monitor whether our collaborators limit their use of the technology to these uses, and we could incur substantial expenses to enforce our rights to our licensed technology in the event of misuse.

Risks Related to Regulation of Our Products

Our corporate compliance program cannot guarantee that we are in compliance with all applicable federal and state regulations.

Our operations, including our research and development and our commercialization efforts, such as clinical trials, manufacturing and distribution, are subject to extensive federal and state regulation. While we have developed and instituted a corporate compliance program, we cannot assure you that the Company or our employees are or will be in compliance with all potentially applicable federal and state regulations or laws. If we fail to comply with any of these regulations or laws, a range of actions could result, including, but not limited to, the termination of clinical trials, the failure to approve a commercialized product, significant fines, sanctions, or litigation, any of which could harm our business and financial condition.

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If export controls affecting our products are expanded, our business will be adversely affected.

The federal government regulates the sale and shipment of numerous technologies by U.S. companies to foreign countries. Our subsidiaries may develop products that might be useful for military and antiterrorism activities. Accordingly, federal government export regulations could restrict sales of these products in other countries. If the federal government places burdensome export controls on our technology or products, our business would be materially and adversely affected. If the federal government determines that we have not complied with the applicable export regulations, we may face penalties in the form of fines or other punishment.

Risks Related to our Stock

Stockholder equity interest may be substantially diluted in any additional financing.

Our certificate of incorporation authorizes the issuance of 145,000,000 shares of Common Stock and 5,000,000 shares of preferred stock, on such terms and at such prices as our Board of Directors may determine. As of September 30, 2009, 56,411,744 shares of Common Stock and no shares of preferred stock were issued and outstanding. As of September 30, 2009, 1,532,000 shares and 1,369,588 shares were reserved for issuance upon exercise of options granted under our 2000 Stock Option Plan, (the 2000 Plan), and 2004 Equity Incentive Plan, (the 2004 Plan), respectively. As of September 30, 2009, we had warrants outstanding to purchase 15,417,815 shares of Common Stock and issued warrants to purchase 5,245,891 shares in a recent private offering. All of the warrants are callable by us under certain market conditions.

In October 2009, the stockholders approved an increase in the number of the authorized shares of Common Stock from 70 million to 145 million under our certificate of incorporation (See footnote 15 Subsequent Events in the attached financials). The increase in authorized shares of Common Stock approved by our stockholders, together with the issuance of additional securities in financing transactions by us or through the exercise of options or warrants will dilute the equity interests of our existing stockholders, perhaps substantially, and might result in dilution in the tangible net book value of a share of our Common Stock, depending upon the price and other terms on which the additional shares are issued.

Our Common Stock price has fluctuated significantly over the last several years and may continue to do so in the future, without regard to our results of operations and prospects.

Because we are a development stage company, there are few objective metrics by which our progress may be measured. Consequently, we expect that the market price of our Common Stock will likely continue to fluctuate significantly. We do not expect to generate substantial revenue from the license or sale of our nanotechnology for several years, if at all. In the absence of product revenue as a measure of our operating performance, we anticipate that investors and market analysts will assess our performance by considering factors such as:

- announcements of developments related to our business;
- developments in our strategic relationships with scientists within the nanotechnology field;
- our ability to enter into or extend investigation phase, development phase, commercialization phase and other agreements with new and/or existing partners;
- announcements regarding the status of any or all of our collaborations or products;
- market perception and/or investor sentiment regarding nanotechnology as the next technological wave;
- announcements regarding developments in the nanotechnology field in general;

the issuance of competitive patents or disallowance or loss of our patent rights; and

quarterly variations in our operating results.

We will not have control over many of these factors but expect that they may influence our stock price. As a result, our stock price may be volatile and any extreme fluctuations in the market price of our Common Stock could result in the loss of all or part of your investment.

The market for purchases and sales of our Common Stock may be very limited, and the sale of a limited number of shares could cause the price to fall sharply.

Although our Common Stock is listed for trading on the NASDAQ Capital Market, our securities are currently relatively thinly traded. Our current solvency concerns could serve to exacerbate the thin trading of our securities. For example, mandatory sales of our Common Stock by institutional holders could be triggered if an investment in our Common Stock no longer satisfies their investment standards and guidelines as a result of the solvency concerns. Accordingly, it may be difficult to sell shares of Common Stock quickly without significantly depressing the value of the stock. Unless we are successful in developing continued investor interest in our stock, sales of our stock could continue to result in major fluctuations in the price of the stock. Moreover, our stock price has generally been declining for the last 24 months.

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If securities or industry analysts do not publish research reports about our business or if they make adverse recommendations regarding an investment in our stock, our stock price and trading volume may decline.

The trading market for our Common Stock will be influenced by the research and reports that industry or securities analysts publish about our business. We do not currently have and may never obtain research coverage by industry or securities analysts. Investors have many investment opportunities and may limit their investments to companies that receive coverage from analysts. If no industry or securities analysts commence coverage of the Company, the trading price of our stock could be negatively impacted. In the event we obtain industry or security analyst coverage, if one or more of the analysts downgrade our stock or comment negatively on our prospects, our stock price would likely decline. If one or more of these analysts cease to cover our industry or us or fails to publish reports about the Company regularly, our Common Stock could lose visibility in the financial markets, which could also cause our stock price or trading volume to decline.

The market price of our Common Stock may be adversely affected by the sale of shares by our management or founding stockholders.

Sales of our Common Stock by our officers, directors and founding stockholders could adversely and unpredictably affect the price of those securities. Additionally, the price of our Common Stock could be affected even by the potential for sales by these persons. We cannot predict the effect that any future sales of our Common Stock, or the potential for those sales, will have on our share price. Furthermore, due to relatively low trading volume of our stock, should one or more large stockholders seek to sell a significant portion of its stock in a short period of time, the price of our stock may decline.

We may be the target of securities class action litigation due to future stock price volatility.

In the past, when the market price of a stock has been volatile, holders of that stock have often initiated securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

We do not intend to declare cash dividends on our Common Stock.

We will not distribute cash to our stockholders unless and until we can develop sufficient funds from operations to meet our ongoing needs and implement our business plan. The time frame for that is inherently unpredictable, and you should not plan on it occurring in the near future, if at all.

Our Board of Directors has the authority to issue shares of blank check preferred stock, which may make an acquisition of the Company by another company more difficult.

We have adopted and may in the future adopt certain measures that may have the effect of delaying, deferring or preventing a takeover or other change in control of the Company that a holder of our Common Stock might consider in its best interest. Specifically, our Board of Directors, without further action by our stockholders, currently has the authority to issue up to 5,000,000 shares of preferred stock and to fix the rights (including voting rights), preferences and privileges of these shares (blank check preferred). Such preferred stock may have rights, including economic rights, senior to our Common Stock. Additionally, because we are effectively out of authorized by unissued common stock, we may be forced to issue preferred stock in future capital raising transactions. As a result, the issuance of the preferred stock could have a material adverse effect on the price of our Common Stock and could make it more difficult for a third party to acquire a majority of our outstanding Common Stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

Our corporate headquarters is located in Pasadena, California. The Company leases the following facilities:

	Lab/Office Space	Monthly Rent	Lease Commencement	Lease Term
Arrowhead				
Pasadena(1)	7,388 sq ft	$ 18,101	March 1, 2006	62 Months
New York(2)	130 sq ft	$ 1,600	October 1, 2008	14 Months
Calando(3)	4,354 sq ft	$ 12,173	June 1, 2009	1 Month
Unidym				
Menlo Park, CA(4)	9,255 sq ft	$ 14,345	February 1, 2007	36 Months
Sunnyvale, CA	20,500 sq ft	$ 26,650	October 1, 2008	60 Months

(1) Arrowhead leases corporate office space in Pasadena, which it occupied beginning March 1, 2006.
(2) As of April 1, 2009, Arrowhead closed its New York office.
(3) Calando s laboratory was closed on June 30, 2009 and its lease expired on July 15, 2009.
(4) On September 30, 2009, Unidym entered into a lease termination agreement with the landlord of its Menlo Park, California facility. Under the terms of the agreement, Unidym forfeited its security deposit of $14,808 and agreed to pay the landlord an additional payment of $63,000. In return, the lease was terminated and Unidym has no further obligations related to the Menlo Park lease.

On April 22, 2009, Unidym entered into a lease termination agreement with the landlord for its Pasadena, Texas location. At the time of the termination, approximately 9.5 years remained on the term of the lease with the minimum estimated future payments totaling approximately $2,139,000. Under terms of the lease termination agreement, Unidym forfeited its $109,200 security deposit and made an additional payment to the landlord of $14,800.

The Company has no plans to own any real estate and expects all facility leases will be operating leases.

Facility and equipment rent expense for the years ended September 30, 2009 and 2008 was $1,326,860 and $1,075,524, respectively. From inception to date, rent expense has totaled $4,304,993.

ITEM 3. LEGAL PROCEEDINGS

The Company is not currently party to any material legal proceedings.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No items were submitted to a vote of stockholders in the quarter ended September 30, 2009.

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PART II

ITEM 5. MARKET FOR REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Price Range of Common Stock

Our Common Stock is traded on the NASDAQ Stock Market under the symbol ARWR . The following table sets forth the high and low sales prices for a share of the Company s Common Stock during each period indicated. During the year ended September 30, 2009, the weekly trading volume ranged from 55,200 shares to 896,800 shares with an average weekly volume of 192,515 shares.

	Fiscal Year Ended September 30,			
	2009		2008	
	High	Low	High	Low
1st Quarter	$ 1.78	$ 0.77	$ 5.01	$ 3.36
2nd Quarter	1.20	0.36	3.55	1.90
3rd Quarter	0.70	0.40	3.07	2.13
4th Quarter	0.71	0.31	2.59	1.04

NASDAQ Compliance

On September 18, 2009, Arrowhead Research Corporation announced that it received a deficiency letter from the NASDAQ Stock Market indicating that based on the Company s closing bid price for the last 30 consecutive business days, the Company did not comply with the $1.00 minimum bid price as set forth in NASDAQ Marketplace Rule 5550(a)(2). In accordance with NASDAQ Marketplace Rule 5810(c)(3)(A), Arrowhead has been provided a grace period of 180 calendar days, or until March 15, 2010, to regain compliance by maintaining a minimum closing bid price of $1.00 per share for 10 consecutive business days. The NASDAQ deficiency notice has no effect on the listing of the Arrowhead s Common Stock at this time and Arrowhead will seek to regain compliance within the grace period. If Arrowhead does not meet the minimum bid requirement during the initial 180-day grace period, the Company will be notified by NASDAQ that its Common Stock will be subject to delisting. Alternatively, the Company may be eligible for an additional grace period if it meets the initial listing standards, with the exception of the bid price, for The NASDAQ Capital Market. If the Company meets the initial listing criteria, NASDAQ will notify the Company that it has been granted an additional 180 calendar day grace period. NASDAQ had previously implemented a temporary suspension of this listing requirement on October 16, 2008. The temporary suspension was lifted on July 31, 2009. During the period of the temporary suspension, the Company was not considered to be out of compliance with this continued listing requirement.

Shares Outstanding

At December 15, 2009, an aggregate of 62,788,380 shares of the Company s Common Stock were issued and outstanding, and were owned by 444 stockholders of record, based on information provided by the Company s transfer agent.

Dividends

The Company has never paid dividends on its Common Stock and does not anticipate that it will do so in the foreseeable future.

Sales of Unregistered Securities

In the fourth quarter of fiscal 2009, the Company issued 1,011,546 shares of Common Stock in exchange for shares of Unidym preferred and common stock. The offering was exempt from registration under the Securities Act of 1933 (the Securities Act) as a private placement within the meaning of Section 4(2) and the safe harbor provided by Regulation D under the Securities Act.

On July 17, 2009 and August 6, 2009, the Company completed the closing of a private placement (the Private Placement) of an aggregate of 9,196,642 shares (the Shares) of its common stock, $0.001 par value per share (Common Stock), at a price of $0.30 per share, and warrants to purchase up to an additional 9,196,642 shares of Common Stock (the Warrants), exercisable at $0.50 per share. The Warrants become exercisable in January 2010 and remain exercisable until June 17, 2014, unless redeemed earlier as permitted. The warrants may be redeemed for

nominal consideration if the Company s common stock trades above $1.20 for at least 30 trading days in any 60-trading day period. Gross proceeds of the Private Placement totaled approximately $2.75 million and proceeds net of commissions were approximately $2.5 million. The Shares and Warrants were offered and sold only to accredited investors in reliance on Section 4(2) of the Securities Act of 1933, as amended (the Securities Act), and Rule 506 promulgated thereunder.

Repurchases of Equity Securities

We did not repurchase any shares of our common stock during fiscal 2009 or fiscal 2008.

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Information Regarding Equity Compensation Plans

The following table provides certain information as of September 30, 2009, with respect to all of the Company s equity compensation plans in effect on that date.

	Equity Compensation Plan Information		
Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders(1)	2,901,588	$ 1.73	4,368,722

(1) Includes the 2000 Stock Option Plan and the 2004 Equity Incentive Plan.

ITEM 6. SELECTED FINANCIAL DATA

As a Smaller Reporting Company, we are not required to provide this information.

ITEM 7. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Description of Business

Unless otherwise noted, (1) the term Arrowhead refers to Arrowhead Research Corporation, a Delaware corporation formerly known as InterActive Group, Inc., (2) the terms the Company, we, us, and our, refer to the ongoing business operations of Arrowhead and its Subsidiaries, whether conducted through Arrowhead or a subsidiary of Arrowhead, (3) the term ARC refers to Arrowhead Research Corporation, a privately-held California corporation with which Arrowhead consummated a stock exchange transaction in January 2004, (4) the term Subsidiaries refers collectively to Calando Pharmaceuticals, Inc. (Calando), Unidym, Inc. (Unidym), Agonn Systems, Inc. (Agonn) and Tego Biosciences Corporation (Tego), Masa Energy LLC (Masa) and (5) the term Common Stock refers to Arrowhead s Common Stock and the term stockholder(s) refers to the holders of Common Stock or securities exercisable for Common Stock.

Overview

Arrowhead Research Corporation is a development stage nanotechnology holding company that forms, acquires, and operates subsidiaries commercializing innovative nanotechnologies. By working closely with leading scientists and universities, Arrowhead identifies advances in nanotechnology and matches them with product development opportunities in high-growth markets. The Company is currently focused on the electronics and biotech industries.

Providing strategic management, financing, and operational services to its subsidiaries, Arrowhead takes an active role in their development, keeping the business and technical development teams at the subsidiary companies focused on near term revenue opportunities and capital efficiency.

Arrowhead s ultimate goal is to realize the value of its subsidiaries by:

A public offering of subsidiary stock;

A sale of subsidiary to another company; or

Building Arrowhead s ownership position to 100% with revenue from subsidiary flowing to Arrowhead s bottom line.

Arrowhead owns two majority-owned subsidiaries, Unidym and Calando, three wholly-owned non-operating subsidiaries and has minority investments in two early-stage nanotechnology companies, Nanotope and Leonardo. Arrowhead s business plan includes adding to its portfolio through selective acquisition and formation of new companies, as capital resources allow. The Company s subsidiaries are seeking to commercialize or license the technology covering a variety of nanotechnology products and applications, including anti-cancer RNAi therapeutics, carbon-based electronics and fullerene based anti-oxidants. The Company s minority investments are focused on developing advanced nanomaterials for spinal cord injury and wound healing and drug delivery technology.

Arrowhead has been active in the operation of its subsidiaries, providing key management functions. During 2009, the Company continued its efforts to streamline the operations of Arrowhead and its Subsidiaries to increase efficiency and decrease costs while continuing to move the business plans of each entity forward. With the decision to move to a licensing model for Calando and the decision to reduce costs at Unidym, the amount of cash needed to fund both operations is expected to be reduced from historical levels.

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Cash Resources and Going Concern

At September 30, 2009, the Company had approximately $2 million in cash to fund operations. In fiscal 2009, the Company raised $7.3 million in capital and $4.4 million through the sales of assets, products and license fees, on a consolidated basis, through equity financing at the Arrowhead level and sales of equity and convertible loans by its subsidiaries.

On December 11, 2009, Arrowhead Research Corporation (the Company) executed definitive agreements for a private placement offering (the Offering) with a selected group of accredited investors. Pursuant to the Offering, the Company sold an aggregate of approximately 5.1 million shares (the Shares) of the Company s Common Stock, $0.001 par value per share (Common Stock), at a price of $0.634 per share, and warrants to purchase up to an equal number of shares of Common Stock (the Warrants), exercisable at $0.509 per share. The closing bid price on the Company s Common Stock on December 11, 2009 was $0.509. The Warrants become exercisable on June 12, 2010 and remain exercisable until December 11, 2014, unless redeemed earlier as permitted. The warrants may be redeemed for nominal consideration if the Company s common stock trades above $1.20 for at least 30 trading days in any 60-trading day period after December 11, 2010. Gross proceeds of the Offering totaled over $3.2 million with net proceeds estimated at approximately $3.2 million. The Shares and Warrants were offered and sold only to accredited investors in reliance on Section 4(2) of the Securities Act of 1933, as amended (the Securities Act), and Rule 506 promulgated thereunder. The Shares and Warrants sold in the private placement have not been registered under the Securities Act or state securities laws and may not be offered or sold in the United States absent registration with the Securities and Exchange Commission or an applicable exemption from the registration requirements. The Company has agreed to file a registration statement with the Securities and Exchange Commission covering the resale of the Shares and the shares of Common Stock issuable upon exercise of the Warrants.

Based on this financing, the Company has developed a plan which indicates that the Company has sufficient cash to operate through September 30, 2010.

Majority-owned Subsidiaries

Unidym

Unidym is a leader in carbon nanotube-based transparent, conductive films (TCFs) for the electronics industry. TCFs are a critical component in devices such as touch panels, displays, and thin-film solar cells. For example, both touch panels and LCDs typically employ two TCF layers per device. Unidym s TCFs offer substantial advantages over the incumbent technology, indium-based metal oxides, including: improved durability, lower processing costs, and lower overall cost structure. Unidym is working in close collaboration with customers, especially in Asia where the bulk of display manufacturing is located. Unidym is initially focused on the touch panel market and expects modest revenue from sales of its films in the near term.

In fiscal 2009, Unidym reduced costs and liabilities and restructured operations. During the year, headcount was reduced and Unidym s facilities were consolidated in Sunnyvale, California. In line with its strategy to work with manufacturing partners, in May 2009, Unidym transferred a portion of its assets for CNT production to CCNI, a manufacturer of CNTs and carbon black, and is in the process of negotiating a license and supply agreement with CCNI for the production of Unidym s CNT supply needs. The consideration for the assets to be transferred and licenses to be granted in the license and supply agreement is still being negotiated, but is expected to consist of upfront payments and royalties.

In November 2008, Unidym raised $2 million through the sale of Series C-1 Preferred Stock to Tokyo Electron Ventures (TEL Ventures). Since March 2009, Unidym s operations have been funded by Arrowhead through a series of stock purchases. Arrowhead also increased its ownership through acquisition of stock from minority holders in Unidym, including TEL Ventures. At September 30, 2009, Arrowhead s interest in Unidym was 79.97% and 64.16% on a fully diluted basis.

Unidym requires additional capital to fund its operations and obligations through fiscal 2010. Unidym s cash consumption has been reduced from fiscal 2008 levels of $2.0 million to $4.2 million per quarter to $532,000 in the fourth fiscal quarter of 2009. From September 30, 2008 to September 30, 2009, Unidym s liabilities have been reduced from $3.3 to $1.5 million.

The development, production and sale of Unidym s products have required and are expected to continue to require significant investment and to take a long time. There are a variety of technical, cost, and marketing barriers that must be overcome. It is not possible at this time to predict the final cost of developing Unidym s transparent conductive film or other CNT products, the final cost of scaling up the production process, when or if Unidym will generate significant licensing revenue, or when or if Unidym will become profitable.

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Calando

Calando is a clinical stage oncology drug delivery company. Calando has developed proprietary technologies to create targeted siRNA-based therapeutics and small molecule nanoparticle drug conjugates. Calando s innovative Cyclosert and RONDEL nanoparticle systems have been designed to solve the long-standing obstacle of safe and effective delivery and targeting for oligonucleotide and small molecule therapeutics. Calando has developed two clinical stage drug candidates for the treatment of cancer. CALAA-001, a therapeutic candidate based on siRNA and the RONDEL system, is currently undergoing a Phase I clinical study. The trial is utilizing a dose escalation protocol which is nearing the highest dose in the protocol and yielding recent promising results. Calando plans to complete the Phase I trial, as capital resources allow, and is seeking a partner for the further development of both the siRNA delivery platform and CALAA-01.

The other clinical candidate is IT-101, a conjugate of Calando s delivery molecule and the potent small molecule anti-cancer drug, Camptothecin. IT-101 has completed a Phase I clinical trial with a positive safety profile and indications of efficacy. On June 23, 2009, Calando entered into agreements to license its small molecule delivery platform and IT-101, to Cerulean Pharma, Inc. (Cerulean), a Boston, MA based biotech company. Under the terms of the agreements, Calando granted Cerulean an exclusive royalty-bearing worldwide license to certain patent rights and know-how and transferred to Cerulean certain intellectual property related to the linear-cyclodextrin drug delivery platform and IT-101 in exchange for an initial payment of $2.4 million. Under the agreements, Calando retains the rights to use the linear-cyclodextrin drug delivery platform to deliver tubulysin, cytolysin (the rights to deliver both were previously sublicensed by Calando to R&D Biopharmaceuticals GmbH), second generation epothilones, as well as any kind of nucleic acid, e.g., a DNA or siRNA therapeutics. As such, Calando retains the rights to its RONDEL™ platform, as well as the CALAA-01 and CALAA-02 lead drugs. In connection with the Cerulean Agreements, Calando closed its Phase 2 clinical studies for IT-101. The $2.4 million payment from Cerulean was used to pay down Calando s existing obligations.

Under the terms of the agreements, Cerulean will pay Calando up to $2.75 million in development milestone payments if IT-101 progresses through clinical trials and receives marketing approval. If approved, Calando is also entitled to receive up to an additional $30 million in sales milestones, plus royalties on net sales, depending on sales levels, with any development milestone payments credited against such royalties. For every new drug candidate that Cerulean is able to bring to market with the linear-cyclodextrin drug delivery platform, Calando is entitled to receive up to $3 million in development milestone payments and up to an additional $15 million in sales milestones, plus royalties on annual net sales, depending on sales levels, with any development milestone payments credited against such royalties. In addition, should Cerulean enter into any sublicense agreements for the development and sale of IT-101, Calando is entitled to 10% to 40% of Cerulean s sublicense income, depending on timing of the underlying sublicensing deal.

Historically, Calando chose to finance the development of drug candidates and its platform systems from its own resources and minority investments. Significant cash was consumed in fiscal 2008 and in the first three quarters of fiscal 2009 for Calando s clinical program and the development of a second siRNA therapeutic. Calando has moved from an internal development strategy to a partnership and licensing model. In line with this strategy, Calando phased down its operations significantly in the first half of fiscal 2009 as part of the Company s overall cash conservation strategy and closed its laboratory facility on June 30, 2009. Two employees were transferred to Arrowhead to manage the CALAA-01 clinical study and facilitate partnership negotiations. Since July 2009, Calando has further reduced expenses except for limited expenses necessary to complete the CALAA-01 Phase 1 clinical study. Calando s cash consumption has been reduced from fiscal 2008 levels of $2.2 million to $2.6 million per quarter to less than $502,000 in the fourth fiscal quarter of 2009. Calando s continuing cash needs are being met through a series of bridge loans from Arrowhead. Calando will need significant additional capital to fund the completion of its Phase 1 trial and to pay its existing obligations.

We believe there is an opportunity to derive value from the further development of the Calando platform drug delivery systems, as they have been demonstrated to enhance and enable the delivery of diverse pharmaceutical entities, including peptides and small molecules as well as other RNA and DNA-based oligonucleotides. At September 30, 2009, Arrowhead s interest in Calando was 67.8% and 63.6% on a fully diluted basis.

The development of CALAA-01, IT-101 and other pipeline candidates are preliminary, and there is no assurance that they will be successful. There are numerous technical, regulatory and marketing challenges that must be overcome to successfully commercialize Calando s products, including, but not limited to the following:

Advancing pipeline candidates requires extensive preclinical testing and approval by the U.S. Food and Drug Administration (FDA) before clinical testing can commence.

Advancing therapeutic candidates through preclinical and clinical testing is expensive, resource intensive and time consuming.

Complications may arise that would cause the clinical testing to be interrupted or stopped. FDA approval is required before products can be sold.

Even if FDA approval is eventually obtained, there is no assurance that it will be accepted by the medical community.

It is not possible at this time to accurately determine the final cost of the development projects, the completion dates, or when or if revenue will commence.

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Wholly-owned Subsidiaries

Tego

Tego has been pursuing a licensing and partnering strategy. In line with this strategy, on July 1, 2009, Tego exclusively licensed to The Bronx Project, Inc. (TBP), a development stage pharmaceutical company, the rights to develop and commercialize carboxylated fullerenes, e.g., the fullerene C3, in the fields of Parkinson s disease, amyotrophic lateral sclerosis (or Lou Gehrig s disease), multiple sclerosis, brain trauma and schizophrenia. The TBP License provides Tego with $100,000 in upfront fees, $2.35 million in potential milestone payments and royalties, as well as 5% of the proceeds of a sale of TBP itself to a third party.

Agonn

As part of Arrowhead s strategy to conserve cash in 2009, Agonn curtailed its development effort