

APPLIED DNA SCIENCES INC

Form 424B4

November 18, 2014

TABLE OF CONTENTS

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File No. 333-199121

PROSPECTUS

APPLIED DNA SCIENCES, INC.

\$9,100,000 OF SHARES OF COMMON STOCK AND

WARRANTS TO PURCHASE SHARES OF COMMON STOCK

We are offering \$9,100,000 of shares of common stock and warrants to purchase shares of common stock in a firm commitment underwritten public offering. One share of common stock is being sold together with a warrant, with each warrant being immediately exercisable for one share of common stock at an exercise price of \$3.50 per share (or 108% of the price for each share sold in this offering) and expiring 5 years after the issuance date.

Our common stock and the warrants offered hereby have been approved for listing on The NASDAQ Capital Market under the symbols “APDN” and “APDNW,” respectively. On November 17, 2014, the last reported sale price of our common stock on The NASDAQ Capital Market was \$2.75 per share.

On October 29, 2014, we effected a one-for-60 reverse split on our issued and outstanding shares of common stock. All warrant, option, share and per share information in this prospectus gives effect to the one-for-60 reverse split retroactively.

The purchase of the securities offered through this prospectus involves a high degree of risk. You should consider carefully the risk factors beginning on page 8 of this prospectus before purchasing any of the shares offered by this prospectus. Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Per Warrant	Total
Public offering price	\$ 3.2400	\$ 0.0100	\$ 3.2500
Underwriting discounts and commissions (1)	\$ 0.2268	\$ 0.0007	\$ 0.2275
Proceeds, before expenses, to us (2)	\$ 3.0132	\$ 0.0093	\$ 3.0225

(1)

- We have agreed to issue warrants to the underwriter and to reimburse the underwriter for expenses incurred by it in an amount not to exceed \$100,000. We refer you to “Underwriting” beginning on page 79 of this prospectus for additional information regarding total underwriter compensation.

(2)

- We estimate the total expenses of this offering will be approximately \$520,500. We refer you to “Underwriting” for additional information.

One of our institutional investors (which is the holder of the Series B Warrant being repurchased with a portion of the proceeds of this offering) has indicated an interest in purchasing approximately \$1.1 million in shares of common stock and warrants in this offering at the public offering price and on the same terms as the other purchasers in this offering. In addition, one or more of our directors, including our Chairman, Chief Executive Officer and President, or their affiliates or related parties have indicated an interest in purchasing \$0.5 million in common stock and warrants in

this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, these investors may determine to purchase more, less or no shares in this offering, or the underwriters may determine to sell more, less or no shares in this offering to these investors. The underwriters will receive the same underwriting discounts and commissions on any shares and warrants purchased by these parties as they will on any other shares and warrants sold to the public in this offering.

The underwriter expects to deliver the securities against payment in New York, New York on November 20, 2014. We have granted the underwriter the option for a period of 45 days to sell up to an additional \$1,365,000 shares of common stock and/or warrants to purchase shares of common stock at the public offering price, less underwriting discounts and commission, to cover overallotments, if any.

Sole Book Running Manager

Maxim Group LLC

Co-Manager

Dawson James Securities, Inc.

The date of this prospectus is November 18, 2014.

TABLE OF CONTENTS

<u>ABOUT THIS PROSPECTUS</u>	<u>1</u>
<u>RISK FACTORS</u>	<u>8</u>
<u>FORWARD-LOOKING INFORMATION</u>	<u>20</u>
<u>INDUSTRY AND MARKET DATA</u>	<u>20</u>
<u>USE OF PROCEEDS</u>	<u>21</u>
<u>MARKET FOR OUR COMMON STOCK</u>	<u>22</u>
<u>DILUTION</u>	<u>23</u>
<u>CAPITALIZATION</u>	<u>24</u>
<u>MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u>	<u>25</u>
<u>BUSINESS</u>	<u>38</u>
<u>MANAGEMENT</u>	<u>57</u>
<u>EXECUTIVE COMPENSATION</u>	<u>62</u>
<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u>	<u>70</u>
<u>CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS, AND DIRECTOR INDEPENDENCE</u>	<u>72</u>
<u>DESCRIPTION OF SECURITIES</u>	<u>74</u>
<u>PENNY STOCK</u>	<u>78</u>
<u>UNDERWRITING</u>	<u>79</u>
<u>LEGAL MATTERS</u>	<u>83</u>
<u>EXPERTS</u>	<u>83</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>83</u>
<u>INDEX TO THE FINANCIAL STATEMENTS</u>	<u>F-1</u>

You should rely only on the information contained in this prospectus and any applicable prospectus supplement. We have not authorized anyone to provide you with different or additional information. If anyone provides you with different or inconsistent information, you should not rely on it. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of securities described in this prospectus. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus or any prospectus supplement, as well as information we have previously filed with the Securities and Exchange Commission, is accurate as of the date on the front of those documents only. Our business, financial condition, results of operations and prospects may have changed since those dates.

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS

The following summary highlights selected information contained in this prospectus. This summary is not complete and does not contain all of the information that you should consider before investing in our securities. Before making an investment decision, you should read the entire prospectus carefully, including the “risk factors” section, the financial statements and other information included in this prospectus. In this prospectus “Applied DNA,” “we,” “us” and “our” refer to Applied DNA Sciences, Inc. and its subsidiaries.

All warrant, option, share, and per share information in this prospectus gives retroactive effect to a one-for-60 reverse stock split that was effected on October 29, 2014.

Our Company

Using biotechnology as a forensic foundation, we create unique security solutions addressing the challenges of modern commerce. Whether working in supply chain security, brand protection or law enforcement applications, it is our goal to help establish secure and flourishing environments that foster quality, integrity and success. With secure taggants, high-resolution DNA authentication, and comprehensive reporting, our botanical DNA-based technologies are designed to deliver what we believe to be the greatest levels of security, deterrence and legal recourse strength. SigNature ® DNA. SigNature DNA is our platform ingredient, at the core of all of our security solutions. From application to application the vehicle which carries SigNature DNA is custom designed to suit the application. Exhaustive development efforts have yielded a flexible and durable marker with all the accuracy provided by nature. SigNature DNA is based on full, double stranded plant DNA, and provides forensic power and protection for a wide array of applications. Highly secure, robust and durable, SigNature DNA markers are an ingredient that can be used to fortify brand protection efforts; mark, track and convict criminals; and strengthen supply chain security. Custom DNA sequences can be embedded into a wide range of host carriers including ink, varnish, thread, laminates and metal coatings. These items can then be tested for the presence of SigNature DNA Markers through optical screening or a forensic level authentication. Hundreds of millions of SigNature DNA marks now exist in the public domain on items ranging from consumer product packaging to microcircuits to guitars. We believe that no marks have ever been copied.

SigNature DNA, SigNature ® T DNA, fiberTyping ®, DNANet ® and digitalDNA ®, our principal anti-counterfeiting and product authentication solutions and our Counterfeit Prevention Authentication Program can be used in numerous industries, including microcircuits and other electronics, cash-in-transit (transport and storage of banknotes), textiles and apparel, automotive, printing and packaging, homeland security, law enforcement and home asset marking, identity cards and other secure documents, industrial materials, agrochemicals, pharmaceuticals, consumer products, food and beverage, fine wine, and art and collectibles.

SigNature T DNA and fiberTyping. There is one common thread that runs through the global textile industry: success breeds counterfeiting and diversion. SigNature T botanical DNA markers are used for brand protection efforts and raw material source compliance programs. In situations where natural fibers like cotton or wool are utilized, we can isolate and type inherent DNA, making it possible to verify the presence of specified materials. This fiberTyping process provides DNA verification to help manufacturers, retailers and brand owners ensure quality, safety and compliance of their products.

DNANet. Recognizing that DNA-based evidence is the cornerstone of the modern era of law enforcement, we have created what we believe to be an effective crime fighting tool: DNANet, a botanical DNA marker that can be used to definitively link evidence and offenders to specific crime scenes. Whether deployed as a residential asset marker, an offender spray or fog in a retail location or a degradation dye in cash handling boxes, DNA markers facilitate conviction, and establish a heightened level of deterrence. DNANet, which includes our SmartDNA product line, is a unique security system and effective crime protection system for stores, warehouses, banks, pharmacies, ATMs and the protection of valuables. The system contains a water-based, non-toxic spray which may be triggered during a crime, marking the perpetrator and remaining on their person for weeks after the crime. Each unit is designed to be unique to

TABLE OF CONTENTS

each store, warehouse or sting operation, allowing the police and prosecutors to link criminals to the crimes. Assets acquired from RedWeb Technologies including Sentry 500 Intruder Spray Systems and Advanced Molecular Taggant Technology and our SmartDNA product line are now included in the DNANet family of products.

digitalDNA. digitalDNA is a security solution that utilizes the flexibility of mobile communications, the instant accessibility of secure, cloud-based data, and the certainty of DNA to make item tracking and authentication fast, easy and definitive, while providing the opportunity to create a new customer interface. digitalDNA begins with a DNA-secured form of the QR (“quick read”) code or other two dimensional code. A unique identification code is created for each article, and represented in an easy-to-read QR style barcode. The product uses forensic authentication of a botanical DNA marker, embedded within a secure QR code, and physically included within the ink used to digitally print the code. Should there ever be a question about the validity of a digitalDNA code; a laboratory-based analysis can be conducted to determine authenticity.

Counterfeit Prevention Authentication Program. Our turnkey program for electronics, military, commercial, and aerospace contractors called the Counterfeit Prevention Authentication Program (“CPA” Program) empowers end-users to verify the originality or provenance of parts which have been marked by their suppliers with our SigNature DNA Markers.

Summary Risks

Before you invest in our stock, you should carefully consider all the information in this prospectus, including matters set forth in the “Risk Factors” section beginning on page 8 of this prospectus. We believe that the following are some of the major risks and uncertainties that may affect us:

-
- We have a short operating history, a relatively new business model, and have not produced significant revenues, which makes it difficult to evaluate our future prospects and increases the risk that we will not be successful;
-
- We have a history of operating losses which may continue, and which may harm our ability to obtain financing and continue our operations;
-
- We will require additional financing which may require the issuance of additional shares which would dilute the ownership held by our stockholders;
-
- Our operating results could be adversely affected by a reduction in business with our customers that supply parts to the Defense Logistics Agency;
-
- If we are unable to obtain additional financing our business operations may be harmed or discontinued, and if we do obtain additional financing our stockholders may suffer substantial dilution;
-
- General economic conditions may adversely affect our business, operating results and financial condition;

-
- If our existing products and services are not accepted by potential customers or we fail to introduce new products and services, our business, results of operations and financial condition will be harmed;
-
- The expenses or losses associated with the continued lack of market acceptance of our solutions will harm our business, operating results and financial condition;
-
- If we are unable to retain the services of Dr. Hayward or Dr. Liang, we may not be able to continue our operations;
-
- The markets for our anti-counterfeiting and product authentication solutions are very competitive, and we may be unable to continue to compete effectively in these industries in the future;
-
- We need to expand our sales, marketing and support organizations and our distribution arrangements to increase market acceptance of our products and services;

TABLE OF CONTENTS

-
- If we need to replace manufacturers, our expenses could increase, resulting in smaller profit margins;
-
- Our intellectual property rights are valuable, and any inability to protect them could reduce the value of our products, services and brand;
-
- Intellectual property litigation could harm our business; and
-
- We may be subject to claims for damages in connection with certain sales of shares of our common stock in the open market.

Corporate Information

Our principal offices are located at 50 Health Sciences Drive, Stony Brook, New York 11790, and our telephone number is (631) 240-8800. We are a Delaware corporation, which was initially formed in 1983 under the laws of the State of Florida as Datalink Systems, Inc. In 1998, we reincorporated in Nevada, and in 2002, we changed our name to our current name, Applied DNA Sciences, Inc. In December 2008, we completed our reincorporation from Nevada to the State of Delaware. We maintain a website at www.adnas.com. The information contained on that website is not deemed to be a part of this prospectus.

Our corporate headquarters are located at the Long Island High Technology Incubator at Stony Brook University in Stony Brook, New York, where we established laboratories for the manufacture of DNA markers and product prototypes, and DNA authentication. To date, we have had a limited operating history, and as a result, our operations have produced limited recurring revenues from our services and products; we have incurred expenses and have sustained losses.

3

TABLE OF CONTENTS

SUMMARY OF THE OFFERING

Securities offered:

2,800,000 shares of our common stock, together with warrants to purchase 2,800,000 shares of our common stock at the exercise price of \$3.50 per share (or 108% of the price for each share sold in this offering). The warrants will be immediately exercisable and will expire 5 years after the issuance date.

Common stock outstanding before the offering (1):

13,935,954 shares

Common stock to be outstanding after the offering (1) (2):

16,735,954 shares (19,535,954 shares if the warrants being offered hereby are exercised in full).

Underwriter's Over-Allotment Option:

The Underwriting Agreement provides that we will grant to the underwriter an option, exercisable within 45 days after the closing of this offering, to purchase up to an additional 15% of the total number of common stock and/or warrants to be offered by us pursuant to this offering, solely for the purpose of covering over-allotments, if any.

Underwriter's Warrants:

The Underwriting Agreement provides that we will issue to the underwriter share purchase warrants covering a number of shares of common stock equal to 4% of the total number of shares being sold in the offering, including the over-allotments, if any.

Use of Proceeds:

We intend to use a portion of the net proceeds from this offering for the following purposes:

Proceeds:

Gross Proceeds	\$	9,100,000
Discounts, Fees and Expenses		(1,157,500)
Net Proceeds	\$	7,942,500

Uses:

Working Capital	\$	2,201,500
Repurchase of Warrants		4,091,000
Business Development		1,000,000
Research and Development		650,000
Total Uses	\$	7,942,500

Proposed Sales to Existing Investor and Insiders

One of our institutional investors (which is the holder of the Series B Warrant being repurchased with a portion of the proceeds of this offering) has indicated an interest in purchasing approximately \$1.1 million in shares of common stock and warrants in this offering at the public offering price and on the same terms as the other purchasers in this offering. In addition, one or more of our directors, including our Chairman, Chief Executive Officer and President, or their affiliates or related parties have indicated an interest in

TABLE OF CONTENTS

purchasing \$0.5 million in common stock and warrants in this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, these investors may determine to purchase more, less or no shares in this offering, or the underwriters may determine to sell more, less or no shares in this offering to these investors. The underwriters will receive the same underwriting discounts and commissions on any shares and warrants purchased by these parties as they will on any other shares and warrants sold to the public in this offering.

Listing and Symbols:

Our common stock and the warrants offered hereby have been approved for listing on The NASDAQ Capital Market under the symbols “APDN” and “APDNW,” respectively.

Risk Factors:

Investing in our securities involves substantial risks. You should carefully review and consider the “Risk Factors” section of this prospectus beginning on page 8 and the other information in this prospectus for a discussion of the factors you should consider before you decide to invest in this offering.

Reverse Split:

On October 29, 2014, we effected a one-for-60 reverse split on our issued and outstanding shares of common stock. All warrant, option, share and per share information in this prospectus gives retroactive effect to the one-for-60 reverse split.

(1)

- The number of shares of our common stock outstanding excludes the following:
 -
 - 3,854,150 shares of common stock issuable upon exercise of outstanding stock options and warrants, at a weighted average exercise price of \$5.98 per share; and
 -
 - 567,308 shares of common stock and warrants to purchase 567,308 shares of common stock issuable upon exchange for cancellation of principal and accrued interest of certain promissory notes issued to our President, Chairman and Chief Executive Officer and another individual in the aggregate principal amount of \$1,800,000 plus interest (assuming exchange of the notes at the public offering price of this offering). For a description of the notes, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Recent Debt and Equity Financing Transactions — Fiscal 2014;” and
 -
 - 128,800 shares of common stock issuable upon exercise of the underwriter warrants.

(2)

- The total number of shares of our common stock outstanding after this offering is based on 13,935,954 shares outstanding as of November 14, 2014. Except as otherwise indicated herein, all information in this prospectus assumes the underwriter does not exercise the over-allotment option.

TABLE OF CONTENTS

SUMMARY CONSOLIDATED FINANCIAL DATA

The summary consolidated financial data presented below should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and the related notes that are included elsewhere in this prospectus. We have derived the summary consolidated financial data for the nine month periods ended June 30, 2014 and 2013, and as of June 30, 2014, from our unaudited condensed consolidated financial statements that are included elsewhere in this prospectus. We have derived the summary consolidated financial data for the years ended September 30, 2013, 2012 and 2011, and as of September 30, 2013, 2012 and 2011, from our audited consolidated financial statements that are included elsewhere in this prospectus. The summary consolidated statements of operations data for the years ended September 30, 2010 and 2009 and the summary consolidated balance sheet data as of September 30, 2010 and 2009 were derived from our audited consolidated financial statements which are not included in this prospectus. The results of operations for the nine months ended June 30, 2014 are not necessarily indicative of the results to be expected for the full year ending September 30, 2014.

Consolidated Statements of Operations Data

	Years Ended September 30,					Nine Months Ended June	
	2013	2012	2011	2010	2009	2014	2013
Revenues:	\$2,036,222	\$1,854,694	\$968,848	\$519,844	\$295,162	\$2,075,698	\$1,307,111
Operating expenses:							
Selling, general and administrative	11,198,505	7,615,734	8,388,873	7,189,020	6,637,672	10,093,631	8,516,390
Research and development	692,480	432,669	268,876	75,961	135,405	1,085,416	509,132
Depreciation and amortization	321,074	313,940	367,556	371,914	418,128	325,448	105,105
Total operating expenses	12,212,059	8,362,343	9,025,305	7,636,895	7,191,205	11,504,495	9,130,627
Income FROM OPERATIONS	(10,175,837)	(6,507,649)	(8,056,457)	(7,117,051)	(6,896,043)	(9,428,797)	(7,823,516)
Other income (expense):							
Interest income (expense), net	1,272	(643,063)	(2,458,667)	(792,549)	(1,182,695)	784	738
Other (expense) income, net	(3,761)	—	—	—	12,023,888	130,186	—
Gain on change in fair value of contingent liability	(7,508,146)	—	—	—	—	(1,663,316)	(6,145,222)
Income before provision for income taxes	(17,686,472)	(7,150,712)	(10,515,124)	(7,909,600)	3,945,150	(10,961,143)	(13,968,000)
Income tax expense (benefit)	—	—	—	—	572	—	—
Net income	\$ (17,686,472)	\$ (7,150,712)	\$ (10,515,124)	\$ (7,909,600)	\$ 3,944,578	\$ (10,961,143)	\$ (13,968,000)

	Years Ended September 30,					Nine Months Ended June	
Net (LOSS)							
Income							
(loss)							
Income per							
share:							
Basic	\$ (1.51)	\$ (0.74)	\$ (1.67)	\$ (1.58)	\$ 0.94	\$ (0.82)	\$ (1.23)
Diluted	\$ (1.51)	\$ (0.74)	\$ (1.67)	\$ (1.58)	\$ 0.77	\$ (0.82)	\$ (1.23)
Weighted							
average							
Common shares							
Outstanding:							
Basic	11,730,879	9,601,525	6,280,563	5,005,882	4,192,009	13,400,540	11,395,100
Diluted	11,730,879	9,601,525	6,280,563	5,005,882	5,148,540	13,400,540	11,395,100

TABLE OF CONTENTS

Consolidated Balance Sheet Data

	2013	2012	As of September 30, 2011	2010	2009	As of June 30, 2014
Current assets:						
Cash and cash equivalents	\$6,360,301	\$724,782	\$2,747,294	\$17,618	\$213,307	\$2,025,716
Accounts receivable, net of allowance	672,638	296,994	208,587	63,029	47,302	518,274
Prepaid expenses	174,096	80,037	76,290	161,456	79,436	170,792
Total current assets	7,207,035	1,101,813	3,032,171	242,103	340,045	2,714,782
Noncurrent assets	1,167,931	247,121	471,385	1,171,211	1,167,025	1,056,233
Total assets	\$8,374,966	\$1,348,934	3,503,556	\$1,413,314	\$1,507,070	\$3,771,015
Current liabilities:						
Accounts payable and accrued liabilities	\$966,977	\$592,009	\$768,061	\$967,550	\$843,491	\$1,259,439
Advances from Officers	—	—	—	50,000	—	—
Convertible notes payable, net	—	—	3,730,880	1,774,080	2,410,411	—
Deferred revenue	148,503	—	—	—	—	348,624
Total current liabilities	1,115,480	592,009	4,498,941	2,791,630	3,253,902	1,608,063
Convertible note payable-related party, net	—	—	—	219,714	—	—
Warrant liability	2,643,449	—	—	—	—	1,851,723
Total liabilities	3,758,929	592,009	4,498,941	3,011,344	3,253,902	3,459,786
Preferred stock	—	—	—	—	—	—
Common stock	13,109	10,770	7,889	5,773	4,587	13,789
Additional paid in capital	191,296,539	169,753,294	160,853,153	149,737,500	141,680,284	197,952,194
Accumulated deficit	(186,693,611)	(169,007,139)	(161,856,427)	(151,341,303)	(143,431,703)	(197,654,754)
Total stockholders' equity (deficit)	4,616,037	756,925	(995,385)	(1,598,030)	(1,746,832)	311,229

	As of September 30,					As of June 30, 2014
Total Liabilities and Stockholders' Equity (Deficit)	\$8,374,966	\$1,348,934	\$3,503,556	\$1,413,314	\$1,507,070	\$3,771,015

7

TABLE OF CONTENTS

RISK FACTORS

Investment in our common stock involves a number of risks. You should be able to bear the complete loss of your investment. In addition to the risks and investment considerations discussed elsewhere in this prospectus, the following factors should be carefully considered by anyone purchasing the securities offered by this prospectus. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations. If any of the following risks actually occur, our business could be harmed. In such case, the trading price of our common stock could decline and investors could lose all or a part of their investment.

Risks Relating to Our Business:

We have a short operating history, a relatively new business model, and have not produced significant revenues. This makes it difficult to evaluate our future prospects and increases the risk that we will not be successful.

We have a short operating history with our current business model, which involves the marketing, sale and distribution of anti-counterfeiting and product authentication solutions. Our operations since inception have produced limited revenues, and may not produce significant revenues in the near term, or at all, which may harm our ability to obtain additional financing and may require us to reduce or discontinue our operations. If we create significant revenues in the future, we expect to derive most of such revenues from the sale of anti-counterfeiting and product authentication solutions, which are immature industries. You must consider our business and prospects in light of the risks and difficulties we will encounter as an early-stage operating company in a new and rapidly evolving industry. We may not be able to successfully address these risks and difficulties, which could significantly harm our business, operating results, and financial condition.

We have a history of losses from operations which may continue, and which may harm our ability to obtain financing and continue our operations.

We incurred operating losses of \$9.4 million for the nine months ended June 30, 2014 and \$10.2 million for the year ended September 30, 2013. These operating losses have principally been the result of the various costs associated with our selling, general and administrative expenses as we expanded operations, acquired, developed and validated technologies, expanded marketing activities, incurred interest expense on notes we issued to obtain financing and issued warrants with “reset” provisions. Our operations are subject to the risks and competition inherent in a company that moved from the development stage to an operating company. We may not generate sufficient revenues from operations to achieve or sustain profitability on a quarterly, annual or any other basis in the future. Our revenues and profits, if any, will depend upon various factors, including whether our existing products and services or any new products and services we develop will achieve any level of market acceptance. If we continue to incur losses, our accumulated deficit will continue to increase which might significantly impair our ability to obtain additional financing. As a result, our business, results of operations and financial condition would be significantly harmed, and we may be required to reduce or terminate our operations.

We will require additional financing which may require the issuance of additional shares which would dilute the ownership held by our stockholders.

We will need to raise funds through either debt or the sale of our shares in order to achieve our business goals. Any shares issued would further dilute the percentage ownership held by the stockholders. Furthermore, if we raise funds in equity transactions through the issuance of convertible securities which are convertible at the time of conversion at a discount to the prevailing market price, substantial dilution is likely to occur resulting in a material decline in the price of your shares. In addition, there are currently warrants outstanding which have cashless exercise features tied to the Black-Scholes value and the then market price of our common stock which could result in the issuance of substantial additional shares of common stock upon a cashless exercise. This offering as well as future offerings could result in further dilution to investors as a result of price adjustment provisions in the warrants. We are seeking to use a portion of the proceeds of this offering to repurchase between one-half and all of such warrants pursuant to a warrant repurchase option agreement. In the event we decide to repurchase less than all of the warrants, we will require the consent of the investor at the time of such repurchase. We currently intend to repurchase all of the warrants. However, we cannot assure you that such repurchase will be effected.

TABLE OF CONTENTS

Our operating results could be adversely affected by a reduction in business with our customers that supply parts to the United States Defense Logistics Agency (“DLA”).

We derive a significant amount of revenues from a group of customers that supply FSC 5962 parts to DLA. Taken as a group, these customers were responsible for approximately 54% and 46% of our revenues for the years ended September 30, 2013 and 2012, respectively, and 48% for the nine months ended June 30, 2014. As of December 15, 2014, DLA will DNA mark all FSC 5962 microcircuits at its Electronic Test Laboratory in Columbus, Ohio and will no longer issue solicitations requiring suppliers to provide DNA marked FSC 5962 microcircuits. We are working with DLA to develop an appropriate transition plan to this new approach. Over time, this change could result in lower revenues and could adversely impact our business, financial condition or results of operations.

Our operating results could be adversely affected by a reduction in business with our significant customers.

Although no customer represented greater than 10% of our total revenues for the nine months ended June 30, 2014 or fiscal 2013, in the past we have derived a significant amount of revenues from a few customers. An aggregate of 54% of our total revenues for fiscal 2012 was attributable to two customers. An aggregate of 53% of our total revenues for fiscal 2011 were attributable to three customers. Generally our customers do not have an obligation to make purchases from us and may stop ordering our products and services or may terminate existing orders or contracts at any time with little or no financial penalty. The loss of any of our significant customers, any substantial decline in sales to these customers or any significant change in the timing or volume of purchases by our customers could result in lower revenues and could harm our business, financial condition or results of operations.

If we are unable to obtain additional financing our business operations may be harmed or discontinued.

Our continuation as a going concern is dependent upon our future revenues and our ability to commercialize more products, obtain additional capital and attain profitable operations. We will require additional funds to complete the continued development and commercialization of our products, product manufacturing, and to fund expected additional losses from operations, until revenues are sufficient to cover our operating expenses. If we are unsuccessful in obtaining the necessary additional financing, we will most likely be forced to reduce or terminate our operations. General economic conditions may adversely affect our business, operating results and financial condition.

A general weakening or decline in the global economy or a period of economic slowdown may have serious negative consequences for our business and operating results. Since our customers incorporate our products into a variety of consumer goods, the demand for our products is subject to worldwide economic conditions and their impact on levels of consumer spending. Some of the factors affecting consumer spending include general economic conditions, unemployment, consumer debt, reductions in net worth, residential real estate and mortgage markets, taxation, energy prices, interest rates, consumer confidence and other macroeconomic factors. During a period of economic weakness or uncertainty, demand for consumer goods incorporating our products may weaken, and current or potential customers may defer purchases of our products. Although global economic conditions have improved somewhat since the extreme economic contraction in fiscal years 2008 and 2009, there is still significant uncertainty in the global economy, and there is no guarantee that the global economy will remain in this improved state.

While credit and financial markets seemed to have stabilized from their period of extreme distress, there can be no assurance that our liquidity will not be affected by changes in the financial markets and the global economy.

Moreover, the recent crisis has had a significant material adverse impact on a number of financial institutions and has limited access to capital and credit for many companies. This could, among other things, make it more difficult for us to obtain, or increase our cost of obtaining, capital and financing for our operations. Our access to additional capital may not be available on terms acceptable to us or at all.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations could be subject to earthquakes, power shortages, telecommunications failures, cyber-attacks or other vulnerabilities in our computer systems, terrorism, water shortages, tsunamis, floods,

TABLE OF CONTENTS

hurricanes, typhoons, fires, extreme weather conditions, medical epidemics, political or economic instability, and other natural or manmade disasters or business interruptions. The occurrence of any of these business disruptions could seriously harm our revenue and financial condition and increase our costs and expenses.

If our existing products and services are not accepted by potential customers or we fail to introduce new products and services, our business, results of operations and financial condition will be harmed.

There has been limited market acceptance of our botanical DNA encryption, encapsulation, embedment and authentication products and services to date. Some of the factors that will affect whether we achieve market acceptance of our solutions include:

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- availability, quality and price relative to competitive solutions;
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- customers' opinions of the solutions' utility;
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- ease of use;
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- consistency with prior practices;
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- scientists' opinions of the solutions' usefulness; and
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- general trends in anti-counterfeit and security solutions' research.

The expenses or losses associated with the continued lack of market acceptance of our solutions will harm our business, operating results and financial condition.

Rapid technological changes and frequent new product introductions are typical for the markets we serve. Our future success may depend in part on continuous, timely development and introduction of new products that address evolving market requirements. We believe successful new product introductions may provide a significant competitive advantage because customers invest their time in selecting and learning to use new products, and are often reluctant to switch products. To the extent we fail to introduce new and innovative products, we may lose any market share we then have to our competitors, which will be difficult or impossible to regain. Any inability, for technological or other reasons, to successfully develop and introduce new products could reduce our growth rate or damage our business. We may experience delays in the development and introduction of products. We may not keep pace with the rapid rate of change in anti-counterfeiting and security products' research, and any new products acquired or developed by us may not meet the requirements of the marketplace or achieve market acceptance.

If we are unable to retain the services of Dr. Hayward or Dr. Liang, we may not be able to continue our operations. Our success depends to a significant extent upon the continued service of Dr. James A. Hayward, our Chairman, Chief Executive Officer and President, and Dr. Benjamin Liang, our Secretary and Strategic Technology Development Officer. We entered into an employment agreement with Dr. Hayward dated July 11, 2011. We do not have an employment agreement with Dr. Liang. Loss of the services of Drs. Hayward or Liang could significantly harm our business, results of operations and financial condition. We do not maintain key-man insurance on the lives of Drs.

Hayward or Liang.

The markets for our anti-counterfeiting and product authentication solutions are very competitive, and we may be unable to continue to compete effectively in these industries in the future.

The principal markets for our anti-counterfeiting and product authentication solutions are intensely competitive. Many of our competitors, both in the United States and elsewhere, are major pharmaceutical, chemical and biotechnology companies, or have strategic alliances with such companies, and many of them have substantially greater capital resources, marketing experience, research and development staff, and facilities than we do. Any of these companies could succeed in developing products that are more effective than the products that we have or may develop and may be more successful than us in producing and marketing their existing products. Some of our competitors that operate in the anti-counterfeiting and fraud prevention markets include: American Bank Note Holographics, Inc., Applied Optical Technologies, Authentix, Collectors Universe Inc., Brandwatch, Collotype, Data Dot Technology, De La Rue Plc.,

10

TABLE OF CONTENTS

Digimarc Corp., DNA Technologies, Inc., ID Global, Informium AG, Inksure Technologies, Kodak, L-1 Identity Solutions, Media Sec Technologies, opSec Security Group plc., SelectaDNA, SmartWater Technology, Inc., Sun Chemical Corp, Tracetag, Prooftag SAS and Yottamark.

We expect this competition to continue and intensify in the future. Competition in our markets is primarily driven by:

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- product performance, features and liability;
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- price;
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- timing of product introductions;
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- ability to develop, maintain and protect proprietary products and technologies;
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- sales and distribution capabilities;
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- technical support and service;
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- brand loyalty;
-
- applications support; and
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- breadth of product line.

If a competitor develops superior technology or cost-effective alternatives to our products, our business, financial condition and results of operations could be significantly harmed.

We need to expand our sales, marketing and support organizations and our distribution arrangements to increase market acceptance of our products and services.

We currently have a limited number of sales, marketing, customer service and support personnel and will need to increase our staff to generate a greater volume of sales and to support any new customers or the expanding needs of existing customers. The employment market for sales, marketing, customer service and support personnel in our industry is very competitive, and we may not be able to hire the kind and number of sales, marketing, customer service and support personnel we are targeting. Our inability to hire qualified sales, marketing, customer service and support personnel may harm our business, operating results and financial condition. While we have entered into a

limited number of agreements with distributors, we may not be able to sufficiently build out a distribution network or enter into arrangements with qualified distributors on acceptable terms or at all. If we are not able to develop greater distribution capacity, we may not be able to generate sufficient revenue to support our operations.

If we need to replace manufacturers, our expenses could increase, resulting in smaller profit margins.

We compete with other companies for the production capacity of our manufacturers and import quota capacity. Some of these competitors have greater financial and other resources than we have, and thus may have an advantage in the competition for production and import quota capacity. If we experience a significant increase in demand, or if our existing manufacturers must be replaced, we will need to establish new relationships with another or multiple manufacturers. We cannot assure you that this additional third party manufacturing capacity will be available when required on terms that are acceptable to us or terms similar to those we have with our existing manufacturers, either from a production standpoint or a financial standpoint. We do not have long-term contracts with our manufacturers, and our manufacturers do not produce our products exclusively. Should we be forced to replace our manufacturers, we may experience an adverse financial impact, or an adverse operational impact, such as being forced to pay increased costs for such replacement manufacturing or delays upon distribution and delivery of our products to our customers, which could cause us to lose customers or lose revenues because of late shipments.

If a manufacturer fails to use acceptable labor practices, we might have delays in shipments or face joint liability for violations, resulting in decreased revenue and increased expenses.

While we require our independent manufacturers to operate in compliance with applicable laws and regulations, we have no control over their ultimate actions. While our internal and vendor operating guidelines promote ethical business practices and our staff and buying agents periodically visit and monitor

TABLE OF CONTENTS

the operations of our independent manufacturers, we do not control these manufacturers or their labor practices. The violation of labor or other laws by our independent manufacturers, or by one of our licensing partners, or the divergence of an independent manufacturer's or licensing partner's labor practices from those generally accepted as ethical in the United States, could interrupt, or otherwise disrupt the shipment of finished products to us or damage our reputation. Any of these, in turn, could have a material adverse effect on our financial condition and results of operations, such as the loss of potential revenue and incurring additional expenses.

Our research and development effort for new products may be unsuccessful.

We incur research and development expenses to develop new products and technologies in an effort to maintain our competitive position in a market characterized by rapid rates of technological advancement. Our research and development efforts are subject to unanticipated delays, expenses and technical problems. There can be no assurance that any of these products or technologies will be successfully developed or that, if developed, will be commercially successful. In the event that we are unable to develop commercialized products from our research and development efforts or we are unable or unwilling to allocate amounts beyond our currently anticipated research and development investment, we could lose our entire investment in these new products and technologies. Any failure to translate research and development expenditures into successful new product introduction could have an adverse effect on our business.

Failure to license new technologies could impair sales of our existing products or any new product development we undertake in the future.

To generate broad product lines, it is advantageous to sometimes license technologies from third parties rather than depend exclusively on the development efforts of our own employees. As a result, we believe our ability to license new technologies from third parties may be important to our ability to offer new products. In addition, from time to time we are notified or become aware of patents held by third parties that are related to technologies we are selling or may sell in the future. After a review of these patents, we may decide to seek a license for these technologies from these third parties. There can be no assurance that we will be able to successfully identify new technologies developed by others. Even if we are able to identify new technologies of interest, we may not be able to negotiate a license on favorable terms, or at all.

Our failure to manage our growth in operations and acquisitions of new product lines and new businesses could harm our business.

The recent growth in our operations could place a significant strain on our current management resources. To manage such growth, we may need to improve our:

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- operations and financial systems;
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- procedures and controls; and
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- training and management of our employees.

Our future growth, if any, may be attributable to acquisitions of new product lines and new businesses. For example, during fiscal 2013, we completed the purchase of certain assets and technology from RedWeb Technologies Limited relating to its forensic tagging security system. Future acquisitions, if successfully consummated, would likely create increased working capital requirements, which would likely precede by several months any material contribution of an acquisition to our net income. Our failure to manage growth or future acquisitions successfully could seriously harm our operating results. Also, acquisition costs could cause our quarterly operating results to vary significantly. Furthermore, our stockholders would be diluted if we financed the acquisitions by incurring convertible debt or issuing securities.

A percentage of our sales occur outside of the U.S. As a result, we are subject to the economic, political, regulatory and other risks of international operations.

For fiscal 2013, 38% of our revenue was from customers located outside of the U.S. We believe that the revenue from the sale of our products outside the U.S. will continue to grow in the near future. We intend to expand our international operations to the extent that suitable opportunities become available. Our foreign operations and sales could be adversely affected as a result of:

- - nationalization of private enterprises and assets;

TABLE OF CONTENTS

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- political or economic instability in certain countries and regions;
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- differences in foreign laws, including increased difficulties in protecting intellectual property and uncertainty in enforcement of contract rights;
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- the possibility that foreign governments may adopt regulations or take other actions that could directly or indirectly harm our business and growth strategy;
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- credit risks;
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- currency fluctuations;
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- tariff and tax increases;
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- export and import restrictions and restrictive regulations of foreign governments;
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- shipping products during times of crisis or wars; and
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- Other risks inherent in foreign operations.

We are subject to numerous regulatory, legal, operational, and other risks as a result of our international operations which could adversely impact our businesses in many ways.

As a U.S. company, we are required to comply with the economic sanctions and embargo programs administered by Office of Foreign Assets Control and similar multi-national bodies and governmental agencies worldwide, and the Foreign Corrupt Practices Act (“FCPA”). A violation of a sanction or embargo program or of the FCPA or similar laws prohibiting certain payments to governmental officials, such as the U.K. Bribery Act, could subject us, and individual employees, to a regulatory enforcement action as well as significant civil and criminal penalties which could adversely impact our business and operations.

Failure to attract and retain qualified scientific, production and managerial personnel could harm our business. Recruiting and retaining qualified scientific and production personnel to perform and manage prototype, sample, and product manufacturing and business development personnel to conduct business development are critical to our success. In addition, our desired growth and expansion into areas and activities requiring additional expertise, such as

clinical testing, government approvals, production, sales and marketing will require the addition of new management personnel and the development of additional expertise by existing management personnel. Because the industry in which we compete is very competitive, we face significant challenges attracting and retaining a qualified personnel base. Although we believe we have been and will be able to attract and retain these personnel, we may not be able to continue to successfully attract qualified personnel. The failure to attract and retain these personnel or, alternatively, to develop this expertise internally would harm our business since our ability to conduct business development and manufacturing will be reduced or eliminated, resulting in lower revenues. We generally do not enter into employment agreements requiring our employees to continue in our employment for any period of time.

Our intellectual property rights are valuable, and any inability to protect them could reduce the value of our products, services and brand.

Our patents, trademarks, trade secrets, copyrights and all of our other intellectual property rights are important assets for us. There are events that are outside of our control that pose a threat to our intellectual property rights as well as to our products and services. For example, effective intellectual property protection may not be available in every country in which our products and services are distributed. The efforts we have taken to protect our proprietary rights may not be sufficient or effective. Any significant impairment of our intellectual property rights could harm our business or our ability to compete. Protecting our intellectual property rights is costly and time consuming. Any increase in the unauthorized use of our intellectual property could make it more expensive to do business and harm our operating results. Although we seek to obtain patent protection for our innovations, it is possible we may not be able to protect some of these innovations. Given the costs of obtaining patent protection, we may choose not to protect certain innovations that later turn out to be important. There is always the possibility that the scope of the protection gained from one of our issued patents will be insufficient or deemed invalid or

13

TABLE OF CONTENTS

unenforceable. We also seek to maintain certain intellectual property as trade secrets. The secrecy could be compromised by third parties, or intentionally or accidentally by our employees, which would cause us to lose the competitive advantage resulting from these trade secrets.

Intellectual property litigation could harm our business.

Litigation regarding patents and other intellectual property rights is extensive in the biotechnology industry. In the event of an intellectual property dispute, we may be forced to litigate. This litigation could involve proceedings instituted by the U.S. Patent and Trademark Office or the International Trade Commission, as well as proceedings brought directly by affected third parties. Intellectual property litigation can be extremely expensive, and these expenses, as well as the consequences should we not prevail, could seriously harm our business.

If a third party claims an intellectual property right to technology we use, we might need to discontinue an important product or product line, alter our products and processes, pay license fees or cease our affected business activities. Although we might under these circumstances attempt to obtain a license to this intellectual property, we may not be able to do so on favorable terms, or at all. Furthermore, a third party may claim that we are using inventions covered by the third party's patent rights and may go to court to stop us from engaging in our normal operations and activities, including making or selling our product candidates. These lawsuits are costly and could affect our results of operations and divert the attention of managerial and technical personnel. A court may decide that we are infringing the third party's patents and would order us to stop the activities covered by the patents. In addition, a court may order us to pay the other party damages for having violated the other party's patents. The biotechnology industry has produced a proliferation of patents, and it is not always clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, we would need to demonstrate that our products or methods of use either do not infringe the patent claims of the relevant patent and/or that the patent claims are invalid, and we may not be able to do this. Proving invalidity, in particular, is difficult since it requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Because some patent applications in the United States may be maintained in secrecy until the patents are issued, because patent applications in the United States and many foreign jurisdictions are typically not published until eighteen months after filing, and because publications in the scientific literature often lag behind actual discoveries, we cannot be certain that others have not filed patent applications for technology covered by our or our licensor's issued patents or pending applications or that we or our licensors were the first to invent the technology. During the ordinary course of our business, we do not conduct "prior art" searches before filing a patent application. Our competitors may have filed, and may in the future file, patent applications covering technology similar to ours. Any such patent application may have priority over our or our licensors' patent applications and could further require us to obtain rights to issued patents covering such technologies. If another party has filed a United States patent application on inventions similar to ours, we may have to participate in an interference proceeding declared by the United States Patent and Trademark Office to determine priority of invention in the United States. The costs of these proceedings could be substantial, and it is possible that such efforts would be unsuccessful, resulting in a loss of our United States patent position with respect to such inventions.

Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations.

Accidents related to hazardous materials could adversely affect our business.

Some of our operations require the controlled use of hazardous materials for chemical reactions and synthesis. These materials are common to molecular/biological/chemical laboratories and require no special handling or regulation. Although we believe our safety procedures comply with the standards prescribed by federal, state, local and foreign regulations, the risk of accidental contamination of property or injury to individuals from these materials cannot be completely eliminated. In the event of an accident, we could be liable for any damages that result, which could seriously damage our business and results of operations.

TABLE OF CONTENTS

Potential product liability claims could affect our earnings and financial condition.

We face a potential risk of liability claims based on our products and services. Though we have product liability insurance coverage which we believe is adequate, we may not be able to maintain this insurance at reasonable cost and on reasonable terms. We also cannot assure that this insurance, if obtained, will be adequate to protect us against a product liability claim, should one arise. In the event that a product liability claim is successfully brought against us, it could result in a significant decrease in our liquidity or assets, which could result in the reduction or termination of our business.

Litigation generally could affect our financial condition and results of operations.

We generally may be subject to claims made by and required to respond to litigation brought by customers, former employees, former officers and directors, former distributors and sales representatives, former consultants and vendors and service providers. We have faced such claims and litigation in the past and we cannot assure that we will not be subject to claims in the future. In the event that a claim is successfully brought against us, considering our lack of material revenue and the losses our business has incurred for the period from our inception to June 30, 2014, this could result in a significant decrease in our liquidity or assets, which could result in the reduction or termination of our business.

Risks Relating to Our Common Stock, Warrants and this Offering:

We may require additional financing in the future, which may not be available or, if available, may be on terms that cause a decline in the value of the securities purchased in this offering.

If we raise capital in the future by issuing additional securities, investors may experience a decline in the value of the securities purchased in this offering. In addition, such securities may have rights senior to the rights of the securities purchased in this offering.

Our management has broad discretion as to the use of the net proceeds from this offering.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering, and these uses may vary from our current plans. Our management will have broad discretion in the application of the net proceeds, including for any of the purposes described in "Use of Proceeds." Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds. Our management may spend a portion or all of the net proceeds from this offering in ways that holders of our common stock may not desire or that may not yield a significant return or any return at all. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may also invest the net proceeds from this offering in a manner that does not produce income or that loses value.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

Since the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on a public offering price of \$3.24 per share, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of approximately (\$2.70) per share in the net tangible book value of the common stock. See the section entitled "Dilution" in this prospectus for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

There are a large number of shares of common stock underlying our outstanding options and warrants and the sale of these shares may depress the market price of our common stock and cause immediate and substantial dilution to our existing stockholders.

As of November 14, 2014, we had 13,935,954 shares of common stock issued and outstanding and outstanding options and warrants to purchase 3,854,150 shares of common stock, including warrants currently exercisable for 387,621 shares to be repurchased by us out of the proceeds of this offering and not

TABLE OF CONTENTS

including shares and warrants to be issued upon exchange of certain notes upon completion of this offering. See “Use of Proceeds.” The issuance of shares upon exercise of outstanding options and warrants will cause immediate and substantial dilution to the interests of other stockholders.

If we fail to remain current on our reporting requirements, we could be removed from the OTC Market Groups which would limit the ability of broker-dealers to sell our securities and the ability of stockholders to sell their securities in the secondary market.

Companies trading on The Over The Counter Market Group (the “OTCQB”), such as us, must be reporting issuers under Section 12 or Section 15(d) of the Exchange Act, and must be current in their reports under Section 13, in order to maintain price quotation privileges on the OTCQB. If we fail to remain current on our reporting requirements, we could be removed from the OTCQB. As a result, the market liquidity for our securities could be severely adversely affected by limiting the ability of broker-dealers to sell our securities and the ability of stockholders to sell their securities in the secondary market.

We have identified a material weakness in our internal control over financial reporting that could adversely affect our stock price and ability to prepare complete and accurate financial statements in a timely manner.

We concluded that our disclosure controls and procedures were not effective as of September 30, 2013 and June 30, 2014, and this deficiency constituted a material weakness in our internal control over financial reporting as of September 30, 2013 and June 30, 2014. The material weakness, which arose primarily due to the need for more enhanced and formalized documentation and procedures regarding the financial statement closing and review process, is further described in “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Remediation of Weakness in Internal Controls.” We are taking steps to remediate this material weakness and to improve our disclosure controls and procedures. We may, however, identify additional or future material weaknesses or deficiencies. If we fail to remediate the identified or any future material weakness or deficiency, or to maintain our disclosure controls and procedures at the reasonable assurance level, our financial statements and related disclosure could contain material misstatements, the preparation and filing of our financial statements and related filings could be delayed, and substantial costs and resources may be required to remediate any weaknesses or deficiencies or to improve our disclosure controls and procedures. If we cannot produce reliable and timely financial statements, investors could lose confidence in our reported financial information, the market price of our stock could decline significantly, we may be unable to obtain additional financing on acceptable terms, and our business and financial condition could be harmed.

Previously, our common stock was quoted on the OTCQB, and may in the future be quoted on the over-the-counter bulletin board following any delisting from The NASDAQ Capital Market, which provides less liquidity for our shareholders than the national exchanges.

Previously, our common stock was quoted on the OTCBB. However, because of the lack of a market maker willing to list bid and ask quotations for our common stock, we were removed from the OTCBB and now are quoted on the OTCQB. As compared to being quoted on a national exchange, being quoted on the OTCQB may result in reduced liquidity for our shareholders, may cause investors not to trade in our stock and may result in a lower stock price. In addition, investors may find it more difficult to obtain accurate quotations of the share price of our common stock. Trading of our common stock through the OTCQB is frequently thin and highly volatile, and there is no assurance that a sufficient market will develop in our common stock, in which case it could be difficult for our shareholders to sell their stock.

Our common stock and the warrants offered hereby have been approved for listing on the NASDAQ Capital Market in connection with this offering. We expect that our common stock and warrants will be eligible to be quoted on the NASDAQ Capital Market, although no assurance can be given that our securities will continue to be so listed. For our common stock and warrants to be listed on the NASDAQ Capital Market, we must meet the current NASDAQ Capital Market listing requirements. If we were unable to meet these requirements, our common stock and warrants could be delisted from the NASDAQ Capital Market. If our common stock and warrants were to be delisted from the NASDAQ Capital Market, our common stock and warrants could continue to trade on the over-the-counter bulletin board following any delisting from the NASDAQ Capital Market. Any such delisting of our common stock and warrants could

TABLE OF CONTENTS

have an adverse effect on the market price of, and the efficiency of the trading market for, our common stock, not only in terms of the number of shares that can be bought and sold at a given price, but also through delays in the timing of transactions and less coverage of us by securities analysts, if any. Also, if in the future we were to determine that we need to seek additional equity capital, it could have an adverse effect on our ability to raise capital in the public or private equity markets.

Our common stock has been subject to the “penny stock” rules of the SEC and the trading market in our securities is limited, which makes transactions in our stock cumbersome and may reduce the value of an investment in our stock. The SEC has adopted Rule 15g-9 which establishes the definition of a “penny stock,” for the purposes relevant to us, as any security not listed on a national securities exchange that has a market price of less than \$5.00 per share and offered by an issuer with limited net tangible assets and revenues. Since our common stock has been quoted on the OTCQB at less than \$5.00 per share, our shares have been “penny stocks” and may not have been traded unless a disclosure schedule explaining the penny stock market and the risks associated therewith is delivered to a potential purchaser prior to any trade. Broker-dealers must take certain steps prior to selling a “penny stock,” which steps include:

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- that a broker or dealer approve a person’s account for transactions in penny stocks; and
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- the broker or dealer receive from the investor a written agreement to the transaction, setting forth the identity and quantity of the penny stock to be purchased.

In order to approve a person’s account for transactions in penny stocks, the broker or dealer must:

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- obtain financial information and investment experience objectives of the person; and
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- make a reasonable determination that the transactions in penny stocks are suitable for that person and the person has sufficient knowledge and experience in financial matters to be capable of evaluating the risks of transactions in penny stocks.

The broker or dealer must also deliver, prior to any transaction in a penny stock, a disclosure schedule prescribed by the SEC relating to the penny stock market, which, in highlight form:

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- sets forth the basis on which the broker or dealer made the suitability determination; and
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- that the broker or dealer received a signed, written agreement from the investor prior to the transaction.

Generally, brokers may be less willing to execute transactions in securities subject to the “penny stock” rules. This may make it more difficult for investors to dispose of our common stock and cause a decline in the market value of our stock.

Disclosure also has to be made about the risks of investing in penny stocks in both public offerings and in secondary trading and about the commissions payable to both the broker-dealer and the registered representative, current quotations for the securities and the rights and remedies available to an investor in cases of fraud in penny stock transactions. Finally, monthly statements have to be sent disclosing recent price information for the penny stock held

in the account and information on the limited market in penny stocks.

We may be subject to claims for damages in connection with certain sales of shares of our common stock in the open market.

There may have been inadvertent violations of federal and state securities laws in connection with certain sales of shares of our common stock in the open market pursuant to a registration statement on Form S-3 that we had filed to cover the resale of shares issued or to be issued that was declared effective by the Securities and Exchange Commission on July 31, 2013. On December 20, 2013, we filed our annual report on Form 10-K for the fiscal year ended September 30, 2013 (the "Original 2013 Form 10-K") which did not include the auditor attestation report on internal control over financial reporting required by Section 404(b) of Sarbanes-Oxley (the "Auditor Attestation Report"). On May 1, 2014, we filed a Form 10K/A amendment to the Original 2013 Form 10-K in order to include the Auditor Attestation Report.

17

TABLE OF CONTENTS

There were approximately three months when sales of shares may have occurred in open market transactions pursuant to our registration statement when the use thereof should have been suspended. Any such sales may have violated Section 5 or Section 12(a)(1) of the Securities Act of 1933, as amended, and, as a result, we may be liable for claims for damages. In addition, the Securities and Exchange Commission and relevant state regulators could impose monetary fines or other sanctions on us as provided under relevant federal and state securities laws. The amount of such damages and penalties, if any, cannot be determined at this time. If the payment of damages or fines is significant, it could have a material, adverse effect on our cash flow, financial condition or prospects.

Risks Related To Our Reverse Stock Split:

We completed a reverse stock split of our outstanding common stock prior to the completion of this offering. However, we cannot assure you that we will be able to continue to comply with the minimum price requirements of The NASDAQ Capital Market.

On October 29, 2014, we effected a one-for-60 reverse split on our issued and outstanding shares of our common stock in order to achieve the requisite increase in the market price of our common stock to be in compliance with the minimum price requirements of the NASDAQ Capital Market. We cannot assure you that the market price of our common stock following the reverse stock split will remain at the level required for continuing compliance with that requirement. It is not uncommon for the market price of a company's common stock to decline in the period following a reverse stock split. If the market price of our common stock declines following the effectuation of a reverse stock split, the percentage decline may be greater than would occur in the absence of a reverse stock split. In any event, other factors unrelated to the number of shares of our common stock outstanding, such as negative financial or operational results, could adversely affect the market price of our common stock and jeopardize our ability to maintain the NASDAQ Capital Market's minimum price requirements. In addition to specific listing and maintenance standards, the NASDAQ Capital Market has broad discretionary authority over the initial and continued listing of securities, which it could exercise with respect to the listing of our common stock.

Even if the reverse stock split increases the market price of our common stock, there can be no assurance that we will be able to comply with other continued listing standards of the NASDAQ Capital Market.

Even if the market price of our common stock increases sufficiently so that we comply with the minimum bid price requirement, we cannot assure you that we will be able to comply with the other standards that we are required to meet in order to maintain a listing of our common stock or warrants sold in this offering on The NASDAQ Capital Market. Our failure to meet these requirements may result in our common stock or warrants sold in this offering being delisted from The NASDAQ Capital Market, irrespective of our compliance with the minimum bid price requirement. If our common stock were delisted from the NASDAQ Capital Market and determined to be a "penny stock," a broker-dealer may find it more difficult to trade our common stock and an investor may find it more difficult to acquire or dispose of our common stock in the secondary market.

If our common stock were removed from listing with the NASDAQ Capital Market, it may be subject to the so called "penny stock" rules. The SEC has adopted regulations that define a "penny stock" to be any equity security that has a market price per share of less than \$5.00, subject to certain exceptions, such as any securities listed on a national securities exchange. For any transaction involving a "penny stock," unless exempt, the rules impose additional sales practice requirements on broker-dealers, subject to certain exceptions. If our common stock were delisted from the NASDAQ Capital Market and determined to be a "penny stock," a broker-dealer may find it more difficult to trade our common stock and an investor may find it more difficult to acquire or dispose of our common stock on the secondary market. Investors in penny stocks should be prepared for the possibility that they may lose their whole investment.

The reverse stock split may decrease the liquidity of the shares of our common stock.

The liquidity of the shares of our common stock may be affected adversely by the reverse stock split effected on October 29, 2014, given the reduced number of shares outstanding following the reverse stock split, especially if the market price of our common stock does not increase as a result of the reverse stock split.

TABLE OF CONTENTS

Following the reverse stock split, the resulting market price of our common stock may not attract new investors, including institutional investors, and may not satisfy the investing requirements of those investors. Consequently, the trading liquidity of our common stock may not improve.

Although we believe that a higher market price of our common stock may help generate greater or broader investor interest, we cannot assure you that the reverse stock split effected on October 29, 2014 will result in a share price that will attract new investors, including institutional investors. In addition, there can be no assurance that the market price of our common stock will satisfy the investing requirements of those investors. As a result, the trading liquidity of our common stock may not necessarily improve.

19

TABLE OF CONTENTS

FORWARD-LOOKING INFORMATION

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this prospectus, including, without limitation, statements regarding the assumptions we make about our business and economic model, business strategy and other plans and objectives for our future operations, are forward-looking statements.

These forward-looking statements include declarations regarding our management's beliefs and current expectations. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "would," "could," "expects," "plans," "contemplates," "anticipates," "believes," "estimates," "predicts," "projects," "intend" or "continue" or the such terms or other comparable terminology, although not all forward-looking statements contain these identifying words. Forward-looking statements are subject to inherent risks and uncertainties in predicting future results and conditions that could cause the actual results to differ materially from those projected in these forward-looking statements. Some, but not all, of the forward-looking statements contained in this prospectus include, among other things, statements about the following:

-
- Our significant losses and negative cash flow raise questions about our ability to operate profitably;
-
- The risk that we will be unable to find sufficient financing to fund our operations;
-
- The risk that we will be unable to successfully introduce our products into commercial space;
-
- The risk that we may fail to adequately protect our intellectual property rights;
-
- The risks associated with sales in foreign operations;
-
- Future sale of our common stock that could depress the trading price of our common stock, lower our value and make it more difficult for us to raise capital;
-
- Our ability to compete effectively; and
-
- Other matters described in the "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and "Business."

You should also read the matters described in "Risk Factors" and the other cautionary statements made in this prospectus as being applicable to all related forward-looking statements wherever they appear in this prospectus. The forward-looking statements in this prospectus may not prove to be accurate and therefore you are encouraged not to

place undue reliance on forward-looking statements. You should read this prospectus completely.

INDUSTRY AND MARKET DATA

This prospectus includes information concerning our industry and the market in which we operate that we obtained from internal research, publicly available information and industry publications and surveys. Although we are responsible for all of the disclosure contained in this prospectus and we believe the information from the third-party sources included in this prospectus is reliable, such information is inherently imprecise and we have not independently verified this information and it could prove inaccurate.

20

TABLE OF CONTENTS

USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately \$7,942,500 from our sale of common stock and corresponding warrants in this offering, or approximately \$9,211,950 if the underwriter exercises in full its option to purchase additional shares of common stock and warrants, after deducting the estimated underwriting discount and estimated offering expenses payable by us. We intend to use the net proceeds received from this offering for the following purposes:

Proceeds:

Gross Proceeds	\$ 9,100,000
Discounts, Fees and Expenses	(1,157,500)
Net Proceeds	\$ 7,942,500

Uses:

Working Capital	\$ 2,201,500
Repurchase of Warrants (1)	4,091,000
Business Development	1,000,000
Research and Development	650,000
Total Uses	\$ 7,942,500

(1)

- On October 28, 2014, we entered into a warrant repurchase option agreement with an investor, pursuant to which we have the option to purchase between 50% and 100% of the investor's Series B Warrant (currently exercisable for 387,621 shares of common stock) at a purchase price of \$10.55 per share underlying such Series B Warrant (up to an aggregate purchase price of \$4,091,000 for all of the Series B Warrant). In the event we desire to repurchase less than 100% of the Series B Warrant, we will require the consent of the investor at the time of such repurchase. The purchase option expires on November 22, 2014. To the extent all or a portion of the Series B Warrant is not repurchased by us, the proceeds will be used for working capital. We currently intend to repurchase 100% of the Series B Warrant for \$4,091,000.

The investor holding the Series B Warrant has indicated an interest in purchasing approximately \$1.1 million in shares of common stock and warrants in this offering at the public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, this investor may determine to purchase more, less or no shares in this offering, or the underwriters may determine to sell more, less or no shares in this offering to this investor. The underwriters will receive the same underwriting discounts and commissions on any shares and warrants purchased by this investor as they will on any other shares and warrants sold to the public in this offering.

The actual allocation of proceeds realized from this offering will depend upon our operating revenues and cash position and our working capital requirements.

Therefore, as of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. Accordingly, we will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the proceeds of this offering.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

TABLE OF CONTENTS**MARKET FOR OUR COMMON STOCK**

Our common stock was quoted on The Over The Counter Market Group (“OTCQB”) maintained by the National Association of Securities Dealers under the symbol “APDN” through November 14, 2014 and was listed on The NASDAQ Capital Market under the symbol “APDN” on November 17, 2014. There is no certainty that the common stock will continue to be listed or that any liquidity exists for our stockholders.

The following table sets forth the quarterly quotes of high and low prices for our common stock on the OTCQB during the fiscal years ended September 30, 2013 and 2014 and the first quarter of the fiscal year ending September 30, 2015 (or on The NASDAQ Capital Market from November 17, 2014). The following high and low sales prices have been adjusted retroactively to reflect a one-for-60 reverse stock split that was effective on October 29, 2014.

	Fiscal 2013		Fiscal 2014		Fiscal 2015	
	High	Low	High	Low	High	Low
First Quarter	\$ 17.40	\$ 10.20	\$ 11.40	\$ 4.80	\$ 7.70	\$ 2.75
Second Quarter	\$ 13.80	\$ 7.80	\$ 10.80	\$ 7.20	—	—
Third Quarter	\$ 15.60	\$ 10.20	\$ 8.40	\$ 6.00	—	—
Fourth Quarter	\$ 12.00	\$ 5.40	\$ 7.80	\$ 5.40	—	—

Holders

As of November 10, 2014, we had approximately 685 holders of our common stock. The number of record holders was determined from the records of our transfer agent and does not include beneficial owners of common stock whose shares are held in the names of various security brokers, dealers, and registered clearing agencies. The transfer agent of our common stock is American Stock Transfer & Trust Company, located at 6201 15th Avenue, Brooklyn, New York 11219.

Dividends

We have never declared or paid any cash dividends on our common stock. We do not anticipate paying any cash dividends to stockholders in the foreseeable future. In addition, any future determination to pay cash dividends will be at the discretion of the Board of Directors and will be dependent upon our financial condition, results of operations, capital requirements, and such other factors as the Board of Directors deem relevant.

TABLE OF CONTENTSDILUTION

If you purchase securities in this offering, your interest will be immediately and substantially diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock after giving effect to this offering.

Our net tangible book value as of June 30, 2014 was approximately \$1,811,000 or approximately \$0.13 per share of common stock. After giving effect to the sale of the shares in this offering at the public offering price of \$3.24 per share and after deducting underwriter discounts and commissions and other estimated offering expenses payable by us, our pro forma as adjusted net tangible book value at June 30, 2014 would have been approximately \$8,879,250 million or \$0.54 per share. This represents an immediate increase in net tangible book value of approximately \$0.41 per share to our existing stockholders, and an immediate dilution of \$2.70 per share to investors purchasing shares in the offering.

Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of our common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

The following table illustrates the per share dilution to investors purchasing securities in the offering:

Public offering price per share	\$ 3.24
Net tangible book value per share as of June 30, 2014	\$ 0.13
Increase in net tangible book value per share attributable to this offering	\$ 0.41
Adjusted net tangible book value per share after this offering	\$ 0.54
Amount of dilution in net tangible book value per share to new investors in this offering	\$ 2.70

The information above assumes that the underwriter does not exercise its over-allotment option. If the underwriter exercises its over-allotment option in full, the as adjusted net tangible book value will increase to \$0.60 per share, representing an immediate increase to existing stockholders of \$0.06 per share and an immediate dilution of \$2.10 per share to new investors. If any shares are issued upon exercise of outstanding options or warrants, new investors will experience further dilution.

TABLE OF CONTENTS

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization, as of June 30, 2014:

-
- on an actual basis; and
-
- on a pro forma basis, based on an offering price of \$3.24 per share of common stock, to give effect to:
-
- the sale of 2,800,000 shares of common stock and warrants to purchase 2,800,000 shares of common stock, after deducting the estimated underwriter discounts and commissions and estimated offering expenses payable by us; and
-
- a one-for-60 reverse stock split effective on October 29, 2014;
-
- 567,308 shares of common stock and warrants to purchase 567,308 shares of common stock issuable upon exchange for cancellation of principal and accrued interest of certain promissory notes issued to our President, Chairman and Chief Executive Officer and another individual in the aggregate principal amount of \$1,800,000 plus interest (assuming exchange of the notes at the public offering price of this offering); and
-
- the repurchase of warrants currently exercisable for 387,621 shares out of the proceeds of this offering.

You should consider this table in conjunction with “Use of Proceeds” above as well as our “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our financial statements and the notes to those financial statements included elsewhere in this prospectus.

	As of June 30, 2014	
	Unaudited, Actual	Unaudited, Pro forma
Cash and cash equivalents	\$ 2,025,716	5,877,216
Warrant liability	1,851,723	—
Stockholders’ Equity:		
Preferred stock, par value \$0.001 per share; 10,000,000 shares authorized; -0- shares issued and outstanding as of June 30, 2014	\$ —	\$ —
Series A Preferred stock, par value \$0.001 per share; 10,000,000 shares authorized; -0- shares outstanding as of June 30, 2014		
Series B Preferred stock, par value \$.001 per share; 10,000,000 shares authorized; -0- shares outstanding as of June 30, 2014	13,789	17,161

As of June 30, 2014

Common stock, par value \$0.001 per share; 500,000,000 shares
authorized; 13,788,872 shares issued and outstanding as of
June 30, 2014

Additional paid-in capital	197,952,194	207,229,572
Accumulated deficit	(197,654,754)	(200,884,031)
Total Stockholders' Equity	\$ 311,229	6,362,702

TABLE OF CONTENTS

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of financial condition and results of operations should be read together with our consolidated financial statements and accompanying notes appearing elsewhere in this prospectus.

All warrant, option, share and per share information in this prospectus gives retroactive effect to a one-for-60 reverse stock split that was effective on October 29, 2014.

Introduction

Using biotechnology as a forensic foundation, we create unique security solutions addressing the challenges of modern commerce. Whether working in supply chain security, brand protection or law enforcement applications, it is our goal to help establish secure and flourishing environments that foster quality, integrity and success. With secure taggants, high-resolution DNA authentication, and comprehensive reporting, our botanical DNA-based technologies are designed to deliver what we believe to be the greatest levels of security, deterrence and legal recourse strength.

SigNature DNA. SigNature DNA is our platform ingredient, at the core of all of our security solutions. From application to application the vehicle which carries SigNature DNA is custom designed to suit the application. Exhaustive development efforts have yielded a flexible and durable marker with all the accuracy provided by nature. SigNature DNA is based on full, double stranded plant DNA, and provides forensic power and protection for a wide array of applications. Highly secure, robust, and durable SigNature DNA markers are an ingredient that can be used to fortify brand protection efforts; mark, track and convict criminals; and strengthen supply chain security. Custom DNA sequences can be embedded into a wide range of host carriers including ink, varnish, thread, laminates and metal coatings. These items can then be tested for the presence of SigNature DNA Markers through optical screening or a forensic level authentication. Hundreds of millions of SigNature DNA marks now exist in the public domain on items ranging from consumer product packaging to microcircuits to guitars. We believe that no marks have ever been copied.

SigNature DNA, SigNature T DNA, fiberTyping, DNANet and digitalDNA, our principal anti-counterfeiting and product authentication solutions, and our Counterfeit Prevention Authentication Program can be used in numerous industries, including microcircuits and other electronics, cash-in-transit (transport and storage of banknotes), textiles and apparel, automotive, printing and packaging, homeland security, law enforcement and home asset marking, identity cards and other secure documents, industrial materials, agrochemicals, pharmaceuticals, consumer products, food and beverage, fine wine, and art and collectibles. See "Business" for full descriptions of these products.

SigNature T DNA and fiberTyping. There is one common thread that runs through the global textile industry: success breeds counterfeiting and diversion. SigNature T botanical DNA markers are used for brand protection efforts and raw material source compliance programs. In situations where natural fibers like cotton or wool are utilized, we can isolate and type inherent DNA, making it possible to verify the presence of specified materials. This fiberTyping process provides DNA verification to help manufacturers, retailers and brand owners ensure quality, safety and compliance of their products.

DNANet. Recognizing that DNA-based evidence is the cornerstone of the modern era of law enforcement, we have created what we believe to be an effective crime fighting tool: DNANet, a botanical DNA marker that can be used to definitively link evidence and offenders to specific crime scenes. Whether deployed as a residential asset marker, an offender spray or fog in a retail location or a degradation dye in cash handling boxes, DNA markers facilitate conviction, and establish a heightened level of deterrence. DNANet, which includes our SmartDNA product line, is a unique security system and crime protection system for stores, warehouses, banks, pharmacies, ATMs and the protection of valuables. The system contains a water-based, non-toxic spray which may be triggered during a crime, marking the perpetrator and remaining on their person for weeks after the crime. Each unit is designed to be unique to each store, warehouse or sting operation, allowing the police and prosecutors to link criminals to the crimes. Assets acquired from RedWeb Technologies including Sentry 500 Intruder Spray Systems and Advanced Molecular Taggant Technology and our SmartDNA product line are now included in the DNANet family of products.

TABLE OF CONTENTS

digitalDNA. digitalDNA is a security solution that utilizes the flexibility of mobile communications, the instant accessibility of secure, cloud-based data, and the certainty of DNA to make item tracking and authentication fast, easy and definitive, while providing the opportunity to create a new customer interface. digitalDNA begins with a DNA-secured form of the QR (“quick read”) code or other two dimensional code. A unique identification code is created for each article, and represented in an easy-to-read QR style barcode. The product uses forensic authentication of a botanical DNA marker, embedded within a secure QR code, and physically included within the ink used to digitally print the code. Should there ever be a question about the validity of a digitalDNA code; a laboratory-based analysis can be conducted to determine authenticity.

Counterfeit Prevention Authentication Program. Our turnkey program for electronics, military, commercial, and aerospace contractors called the Counterfeit Prevention Authentication Program (“CPA” Program) empowers end-users to verify the originality or provenance of parts which have been marked by their suppliers with our SigNature DNA Markers.

General

To date, the substantial portion of our revenues has been generated from sales of Signature DNA and fiberTyping, our principal anti-counterfeiting and product authentication solutions. We expect to continue to grow revenues from sales of our SigNature DNA platform ingredient, our fibertyping, DNANet, and digitalDNA offerings and the Counterfeit Prevention Authentication Program. We have continued to incur expenses in expanding our laboratory and office facilities and increasing our personnel to meet current and anticipated future demand. We have limited sources of liquidity. We have developed or are currently attempting to develop business in the following target markets: microcircuits and other electronics, cash-in-transit (transport and storage of banknotes), textiles and apparel, automotive, printing and packaging, homeland security, law enforcement and home asset marking, identity cards and other secure documents, industrial materials, agrochemicals, pharmaceuticals, consumer products, food and beverage, fine wine, and art and collectibles. Our developments in the semiconductor authentication, cash-in-transit and textile and apparel authentication have contributed to the increase in our revenues. We intend to pursue both domestic and international sales opportunities in each of these vertical markets.

Critical Accounting Policies

Financial Reporting Release No. 60, published by the SEC, recommends that all companies include a discussion of critical accounting policies used in the preparation of their financial statements. While all these significant accounting policies impact our financial condition and results of operations, we view certain of these policies as critical. Policies determined to be critical are those policies that have the most significant impact on our consolidated financial statements and require management to use a greater degree of judgment and estimates. Actual results may differ from those estimates.

We believe that given current facts and circumstances, it is unlikely that applying any other reasonable judgments or estimate methodologies would cause a material effect on our condensed consolidated results of operations, financial position or liquidity for the periods presented in this report.

The accounting policies identified as critical are as follows:

- - Revenue recognition;
- - Equity based compensation;
- - Fair value of financial instruments.

Revenue Recognition

We recognize revenue in accordance with Accounting Standards Codification (“ASC”) 605, Revenue Recognition (“ASC 605”). ASC 605 requires that four basic criteria must be met before revenue can be recognized: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred and/or service has been performed; (3) the selling price is fixed and determinable; and (4) collectability is reasonably assured. Determination of criteria (3) and (4) are based on management’s judgments regarding the fixed nature of the selling prices of the products delivered or services provided and the collectability of those amounts.

26

TABLE OF CONTENTS

Provisions for allowances and other adjustments are provided for in the same period the related sales are recorded. We defer any revenue for which the product has not been delivered, service hasn't been provided, or is subject to refund until such time that we and the customer jointly determine that the product has been delivered, service has been provided, or no refund will be required. At June 30, 2014 and September 30, 2013, we recorded deferred revenue of \$348,624 and \$148,503, respectively.

Revenue arrangements with multiple components are divided into separate units of accounting if certain criteria are met, including whether the delivered component has stand-alone value to the customer. Consideration received is allocated among the separate units of accounting based on their respective selling prices. The selling price for each unit is based on vendor-specific objective evidence, or VSOE, if available, third party evidence if VSOE is not available, or estimated selling price if neither VSOE nor third party is available. The applicable revenue recognition criteria are then applied to each of the units.

Revenue for a government contract award, which supports our development efforts on specific projects, is recognized as milestones under the contract are achieved as per the contract. We recognized revenue of approximately \$0 and \$50,000 from this contract during the three and nine month periods ended June 30, 2014, respectively.

Equity Based Compensation

We follow Accounting Standards Codification subtopic 718, Compensation ("ASC 718") which requires all share-based payments to employees, including grants of employee stock options, and consultants, to be recognized in the statement of operations based on their fair values.

Fair Value of Financial Instruments

The valuation techniques utilized are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect internal market assumptions. These two types of inputs create the following fair value hierarchy:

Level 1 — Quoted prices in active markets for identical assets or liabilities.

Level 2 — Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related asset or liabilities.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of assets or liabilities.

We utilize observable market inputs (quoted market prices) when measuring fair value whenever possible.

For fair value measurements categorized within Level 3 of the fair value hierarchy, our accounting and finance department, who reports to the Chief Financial Officer, determine its valuation policies and procedures. The development and determination of the unobservable inputs for Level 3 fair value measurements and fair value calculations are the responsibility of our accounting and finance department and are approved by the Chief Financial Officer.

Use of Estimates

In preparing financial statements in conformity with accounting principles generally accepted in the United States of America, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and revenue and expenses during the reporting period. Actual results could differ from those estimates.

TABLE OF CONTENTS

Remediation of Weakness in Internal Controls

We concluded that our disclosure controls and procedures were not effective as of June 30, 2014 as the result of a material weakness in our internal control over financial reporting as of September 30, 2013 that was not yet remediated as of June 30, 2014. The material weakness, which arose primarily due to the need for more enhanced and formalized documentation and procedures regarding the financial statement closing and review process, is further described in Item 4 of our June 30, 2014 Quarterly Report on Form 10-Q. Our management has developed a remediation action plan and we are actively engaged in the implementation of the plan to fully remediate our material weakness. The principal elements of our remediation include the following:

-
- Our CEO has appointed a Sarbanes-Oxley project leadership team, consisting of our CFO and our Controller, that are overseeing the project;
-
- Together with a consultant that we have engaged, we have enhanced our review procedures and the documentation thereof; and
-
- We have implemented these enhanced procedures as we prepared our Form 10-Q for the period ended June 30, 2014.

Comparison of Results of Operations for the Three Month Periods Ended June 30, 2014 and 2013

Revenues

For the three month periods ended June 30, 2014 and 2013, we generated \$841,197 and \$644,842, respectively, in revenues from operations. The increase in revenues of \$196,355 or 30% was primarily from an increase of approximately \$85,000 in sales of DNANet kits in Europe. The increase was also related to a term sheet entered into with a provider of polyolefins where we agreed to cooperate in the development and supply of markers and related additives for polyolefin products. We also had an increase in sales of approximately \$30,000 to a Cash in-transit customer.

Costs and Expenses

Selling, General and Administrative

Selling, general and administrative expenses for the three month periods ended June 30, 2014 decreased by \$292,363 or 9% from \$3,240,815 for the three month period ended June 30, 2013 to \$2,948,452 for the three month period ended June 30, 2014. The decrease is primarily attributable to a reduction in stock based compensation expense for stock option modifications. During both the three month periods ended June 30, 2014 and 2013, we extended the term of options, which resulted in a charge to the statement of operations of approximately \$43,000 and \$409,000, for the three month periods ended June 30, 2014 and 2013, respectively, a decrease of \$366,000. The other significant decreases were consulting expense, which decreased approximately \$130,000 due to our entering into a distributor agreement with a company in Sweden that during fiscal 2013 we compensated as a consultant, which resulted in higher payments. Bad debt expense also decreased by approximately \$70,000 for the three month period ended June 30, 2014 as compared to the same period in the prior fiscal year. There was also a decrease in travel expense of approximately \$69,000 and office expense/building repairs of \$65,000. These decreases were partially offset by higher salary expense of approximately \$235,000 due to an increase in headcount from 44 as of June 30, 2013 to 58 as of June 30, 2014. The increase in the number of employees compared to the same period in the prior year was due to increased work in the production, sales, information technology and finance sectors of the Company, to meet the anticipated future demand for sales. Selling, General and Administrative expenses also increased due to an increase in rent and related utilities by approximately \$80,000 as a result renting the larger office space, and our now paying utilities as compared to them being included as part of the rent during the three month period ended June 30, 2013.

Legal fees also increased by approximately \$130,000, related to legal fees incurred for the SmartWater litigation, as disclosed in footnote G of the June 30, 2014 condensed consolidated financial statements.

28

TABLE OF CONTENTS

Research and Development

Research and development expenses increased to \$266,331 for the three month period ended June 30, 2014 from \$184,981 for the three month period ended June 30, 2013. The increase of \$81,350 or 44% is attributable to the increased laboratory space with our new corporate headquarters as well as an increase in research and development to support the expansion of our business and markets. In particular, we have multiple workstreams in progress toward a launch of new products for field detection and rapid reading of optical marks which use the SigNature DNA ingredient.

Depreciation and Amortization

In the three month period ended June 30, 2014, depreciation and amortization increased by \$51,144 from \$62,280 for the three month period ended June 30, 2013 to \$113,424 for the three month period ended June 30, 2014. The increase is attributable to depreciation and amortization expense for the leasehold improvements and lab equipment purchased during the second half of the fiscal year ended September 30, 2013 primarily related to the relocation of our corporate offices. The increase also relates to amortization for the intellectual property purchased from RedWeb Technologies during May 2013.

Gain from Change in Fair Value of Warrant Liability

Gain from change in fair value of warrant liability during the three month periods ended June 30, 2014 and 2013 was \$515,543 and \$707,289, respectively. These changes in fair value relate to warrants containing certain reset provisions which required us to classify them as liabilities and mark the warrants to market and record the change in fair value at each reporting period, and upon exercise as a non-cash adjustment to our current period operations.

Comparison of Results of Operations for the Nine Month Periods Ended June 30, 2014 and 2013

Revenues

For the nine month periods ended June 30, 2014 and 2013, we generated \$2,075,698 and \$1,307,117, respectively, in revenues from operations. The increase in revenues of \$768,581 or 59% was primarily from an increase in sales to suppliers of the United States Defense Logistics Agency (“DLA”) of approximately \$350,000 from renewals of existing contracts as well as the signing of new contracts. The increase in revenue is also related to a term sheet entered into with a provider of polyolefins where we agreed to cooperate in the development and supply of markers and related additives for polyolefin products. The increase relates to a higher level of sales in the textile industry, primarily for an exclusivity contract with one customer, and to a smaller extent, an increase in fiberTyping sales.

Costs and Expenses

Selling, General and Administrative

Selling, general and administrative expenses for the nine month period ended June 30, 2014 increased by \$1,577,241 or 19% from \$8,516,390 for the nine month period ended June 30, 2013 to \$10,093,631 for the nine month period ended June 30, 2014. The increase is primarily attributable to an increase in payroll of approximately \$830,000 due to an increase in headcount from 44 as of June 30, 2013 to 58 as of June 30, 2014. The increase in the number of employees compared to the same period in the prior year was due to an increase in production, sales, information technology and finance sectors, to meet the anticipated future demand for sales.

The increase is also due to shares of common stock issued to a business strategy consultant for settlement of their fees during the nine month period ended June 30, 2014 for \$337,500. Rent and related utilities expense increased by approximately \$253,000 as a result of the larger office space and our now paying utilities as compared to them being included as part of rent during the period ended June 30, 2013. Legal fees also increased by approximately \$285,000, related to legal fees incurred for the SmartWater litigation, as disclosed in footnote G of the condensed consolidated financial statements.

TABLE OF CONTENTS

Research and Development

Research and development expenses increased to \$1,085,416 for the nine month period ended June 30, 2014 from \$509,132 for the nine month period ended June 30, 2013. The increase of \$576,284 or 113% is attributable to the increased laboratory space with our new corporate headquarters as well as an increase in research and development to support the expansion of our business and markets. In particular, we have multiple workstreams in progress toward a launch of new products for field detection and rapid reading of optical marks which use the SigNature DNA ingredient.

Depreciation and Amortization

During the nine month period ended June 30, 2014, depreciation and amortization increased by \$220,343 from \$105,105 for the nine month period ended June 30, 2013 to \$325,448 for the nine month period ended June 30, 2014. The increase is attributable to depreciation and amortization expense for the leasehold improvements and lab equipment purchased during the second half of the fiscal year ended September 30, 2013 related to the relocation of our corporate offices. The increase also relates to amortization for the intellectual property purchased from RedWeb Technologies during May 2013 and purchases of lab equipment during the nine month period ended June 30, 2014 of approximately \$210,000.

Loss from Change in Fair Value of Warrant Liability

Loss from change in fair value of warrant liability during the nine month periods ended June 30, 2014 and 2013 was \$1,663,316 and \$6,145,229, respectively. These losses relate to warrants containing certain reset provisions which required us classify them as liabilities and mark the warrants to market and record the change in fair value at each reporting period, and upon exercise as a non-cash adjustment to our current period operations.

Comparison of the Year Ended September 30, 2013 to the Year Ended September 30, 2012

Revenues

For the years ended September 30, 2013 and 2012, we generated \$2,036,222 and \$1,854,694 in revenues from operations, respectively. The increase in revenues of \$181,528 or 9.8% for the twelve months ended September 30, 2013 was primarily caused by sales to suppliers of the DLA. In late January 2013, the DLA announced that it would subsidize marking costs for its trusted suppliers, and in March 2013, after this and other mechanisms were in place, we were able to begin shipments for this market. The sales to these third party suppliers during the year ended September 30, 2013 was offset by a decrease in sales due to the completion of our prior pilot contract with the Logistics Management Institute ("LMI"). Revenue during the twelve months ended September 30, 2013 included \$100,000 recognized from a development contract from the Missile Defense Agency.

Costs and Expenses

Selling, General and Administrative

Selling, general and administrative expenses for the twelve months ended September 30, 2013 increased by \$3,582,771 or 47% to \$11,198,505 from \$7,615,734 in the same period in 2012. The increase is primarily attributable to higher professional fees, specifically for legal and consulting services, and additional salary expenses due to building an infrastructure for finance, production and information technology, to meet the anticipated future demand for sales. The increase is also attributable to increased rent expense due to the move into our new corporate headquarters. Bad debt expense increased to \$77,415 for the year ended September 30, 2013 as compared to \$0 for the year ended September 30, 2012.

Research and Development

Research and development expenses increased by \$259,811 or 60.0% for the year ended September 30, 2013 compared to the same period in 2012 to \$692,480 from \$432,669. This increase is primarily due to the increased laboratory space with our new corporate headquarters as well as an increase in research and development to support expansion of the Company's business and markets.

TABLE OF CONTENTS

Depreciation and Amortization

In the twelve months ended September 30, 2013, depreciation and amortization increased by \$7,134 or 2.3% compared to the same period in 2012 from \$313,940 for the year ended September 30, 2012 to \$321,074 for the year ended September 30, 2013. The increase in depreciation expense for the year ended September 30, 2013 was attributable to the impairment of certain intellectual property purchased as part of the purchase of certain assets of RedWeb Technologies of approximately \$115,000. The increase is also due to depreciation and amortization expense for the leasehold improvements and lab equipment purchased during the year ended September 30, 2013 related to the relocation of our corporate offices. These increases were offset by the completion of the amortization of our intangible property, which we incurred approximately \$270,000 of amortization expense during the year ended September 30, 2012 as compared to \$19,470 for the year ended September 30, 2013. The amortization during the year ended September 30, 2013 related to the intellectual property acquired from RedWeb Technologies.

Total Operating Expenses

Total operating expenses increased to \$12,212,059 for the twelve months ended September 30, 2013 from \$8,362,343 in the same period of 2012, or an increase of \$3,849,716 or 46.0%, primarily attributable to an increase in professional fees, salaries and in R&D expenditures, as more fully described above.

Interest (Expenses) Income

Interest (expenses) income for the twelve months ended September 30, 2013, decreased to income of \$1,272 from expense of (\$643,063) in the same period of 2012. The decrease in interest (expense) income was due to no outstanding notes payable as of September 30, 2013.

Loss from Change in Fair Value of Warrant Liability

In November 2012 and July 2013, we issued warrants containing certain reset provisions which require us to classify them as a liability and mark the warrants to market and record the change in fair value each reporting period as a non-cash adjustment to our current period operations. This resulted in a \$7,508,146 charge to operations during the twelve months ended September 30, 2013 as compared to \$-0- for the same period last year.

Net Loss

Net loss for the twelve months ended September 30, 2013 was \$17,686,472 compared to \$7,150,712 in the same period of 2012, a net change of \$10,535,760 or 147.3% increase primarily a result of the loss on change in fair value of warrant liability as well as the combination of factors described above.

Comparison of the Year Ended September 30, 2012 to the Year Ended September 30, 2011

Revenues

For the years ended September 30, 2012 and 2011, we generated \$1,854,694 and \$968,848 in revenues from operations, respectively. The increase in revenues of 91% for the twelve months ended September 30, 2012 was substantially generated from sales of our SigNature DNA and BioMaterial GenoTyping as a result of an increase in our customer base.

Costs and Expenses

Selling, General and Administrative

Selling, general and administrative expenses for the twelve months ended September 30, 2012 decreased 9.2% to \$7,615,734 from \$8,388,873 in the same period in 2011. Included within the selling, general and administrative expenses for the year ended September 30, 2012 was a noncash charge to operations of \$2,012,082 for the fair value of vested options issued to officers and employees and other stock based compensation compared to \$3,668,460 in 2011.

TABLE OF CONTENTS

Research and Development

Research and development expenses increased by \$163,793 for the twelve months ended September 30, 2012 compared to the same period in 2011 from \$268,876 to \$432,669, primarily due to an increase in research and development activities to support our increased customer demand.

Depreciation and Amortization

In the twelve months ended September 30, 2012, depreciation and amortization decreased by \$53,616 compared to the same period in 2011 from \$367,556 to \$313,940. The decrease is attributable to the expiring of the amortization of our intangible assets.

Total Operating Expenses

Total operating expenses decreased to \$8,362,343 for the twelve months ended September 30, 2012 from \$9,025,305 in the same period of 2011, or a decrease of \$662,962, primarily due to decrease in stock based compensation expenses net with the increase in research and development compared to the same period last year.

Interest Expenses

Interest expenses for the twelve months ended September 30, 2012, decreased to \$643,063 from \$2,458,667 in the same period of 2011, a decrease of \$1,815,604. The decrease in interest expense was due to reduction in the amortization of debt discounts attributable to our convertible notes of \$541,120 as compared to \$2,096,427 for the same period last year.

Net Loss

Net loss for the twelve months ended September 30, 2012 was \$7,150,712 compared to \$10,515,124 in the same period of 2011, a net change of \$3,364,412 as a result of the combination of factors described above.

Liquidity and Capital Resources

Our liquidity needs consist of our working capital requirements and research and development expenditure funding. As of June 30, 2014, we had working capital of \$1,106,719. For the nine month period ended June 30, 2014, we generated a net cash flow deficit from operating activities of \$6,271,019 consisting primarily of our loss of \$10,961,143, net with non-cash adjustments of \$325,448 in depreciation and amortization charges, \$1,717,837 for stock-based compensation, \$1,663,316 change in fair value of warrant liability, \$337,500 in common stock issued for consulting services and \$16,878 of bad debt expense. Additionally, we had a net decrease in operating assets of \$136,562 and a net increase in operating liabilities of \$492,583. Cash used in investing activities was \$209,522 for the purchase of property, plant and equipment. Cash provided by financing activities was \$2,145,956 in proceeds from the sale of common stock related to a private placement during June 2014.

We have recurring net losses, which has resulted in an accumulated deficit of \$197,654,754 as of June 30, 2014. We incurred a net loss of \$10,961,143 and generated negative operating cash flow of \$6,271,019 for the nine month period ended June 30, 2014. However, we have attained positive working capital of \$1,106,719 as of June 30, 2014. At June 30, 2014, we had cash and cash equivalents of \$2,025,716. Our current capital resources include cash and cash equivalents and other working capital resources. Historically, we have financed our operations principally from the sale of equity securities. During June 2014, we raised \$2,145,956 in a private placement transaction (see Note E of the June 30, 2014 condensed consolidated financial statements).

Our continuation as a going concern is dependent upon future revenues, obtaining additional capital and ultimately, upon attaining profitable operations. We will require additional funds to complete the continued development of our products, product manufacturing, and to fund expected additional losses from operations, until revenues are sufficient to cover our operating expenses. If we are unsuccessful in obtaining the necessary additional financing, we will most likely be forced to reduce operations.

TABLE OF CONTENTS

Our ability to continue as a going concern is dependent on our ability to successfully accomplish the plan described in the preceding paragraphs. The June 30, 2014 condensed consolidated financial statements do not include any adjustments relating to the recoverability and classification of asset carrying amounts or the amount and classification of liabilities that might result from the outcome of this uncertainty.

We expect capital expenditures to be less than \$400,000 in fiscal 2014. Our primary investments will be in laboratory equipment to support prototyping, manufacturing, our authentication services, and outside services for our detector and reader development.

Substantially all of the real property used in our business is leased under operating lease agreements.

Commitments and Contingencies

Our principal contractual obligations and commercial commitments at September 30, 2013, are summarized in the following charts. We have no other off-balance sheet commitments.

Contractual Obligations (in thousands)	Payments Due By Period				
	Total	Less Than 1 Year	1 – 3 Years	3 – 5 Years	Over 5 Years
Lease commitments:					
Operating leases	\$ 1,199,187	\$ 450,617	\$ 748,570	\$ —	\$ —
Fixed common area maintenance	—	—	—	—	—
Total	\$ 1,199,187	\$ 450,617	\$ 748,570	\$ —	\$ —

Recent Debt and Equity Financing Transactions**Fiscal 2014**

On September 11, 2014, we issued and sold promissory notes (the “Notes”) in the aggregate principal amount of \$1,800,000 and bearing interest at a rate of 12.5% per annum to Dr. James A. Hayward, our President, Chairman and Chief Executive Officer, in the amount of \$1,000,000, and to another individual, in the amount of \$800,000, both of whom are “accredited investors” as defined in regulations promulgated under the Securities Act of 1933, as amended (the “Securities Act”).

The Notes have a ten month maturity. Interest may be payable in cash or in shares of common stock at the option of the holders of the Notes. The Notes may be prepaid in whole or in part, at any time, subject to certain prepayment penalties. Upon an event of default, the Notes and all accrued interest thereon shall automatically convert into common stock at the closing price of the common stock on the date of issuance of the Notes. In the event of a consolidation or merger with another corporation in which we do not survive, the Notes shall be paid in full. On November 11, 2014, Dr. Hayward and the other individual agreed to exchange for cancellation their respective notes (including principal and accrued interest thereon) for 315,171 shares of common stock and warrants to purchase 315,171 shares of common stock, in the case of Dr. Hayward, and 252,137 shares of common stock and warrants to purchase 252,137 shares of common stock, in the case of the other individual, at the public offering price of this offering.

On June 3, 2014 we closed a private placement of our common stock and warrants to purchase common stock (“Warrants”) with a group of investors (collectively the “Investors”), pursuant to subscription agreements for gross proceeds of \$2,145,956. We issued and sold 312,257 shares of common stock at a purchase price of \$6.87 per share (“Purchase Price”) and Warrants to purchase 312,257 shares of common stock. The Purchase Price of the common stock represents a 5% discount to the volume weighted average closing price of the common stock from May 13, 2014 to May 16, 2014, which ranged from \$6.93 to \$7.47 per share during the period. The Warrants are exercisable at a price of \$8.25 per share (representing a 20% premium to the Purchase Price) for a period of one year and do not have

cashless exercise provisions. The common stock purchased as well as the common stock to be issued upon exercise of the Warrants will be subject to the six month holding period provisions of Rule 144.

On July 8, 2014, we closed on an additional subscription agreement under this private placement, with the same terms as disclosed above. We issued and sold 1,500 shares of our common stock and warrants to purchase 1,500 shares of our common stock for total proceeds of \$10,309.

33

TABLE OF CONTENTS

Fiscal 2013 — Securities Purchase Agreements

During the year ended September 30, 2013, we entered into two securities purchase agreements on November 28, 2012 (the “Initial Purchase Agreement”) and July 19, 2013 (the “Second Purchase Agreement”), respectively, with an institutional investor (“Investor”) to sell an aggregate of \$15.0 million (\$7.5 million per agreement) of our securities (collectively, the “Purchase Agreements”). The total net proceeds received under these two transactions were \$14.6 million (\$15 million gross proceeds, less investment fees of \$365,000). The table below summarizes the securities issued as part of the Purchase Agreements.

Securities Issued	Initial Purchase Agreement		Second Purchase Agreement	
	Shares issued	Price per share	Shares issued	Price per share
Common Stock	179,211	\$ 11.16	178,253	\$ 11.22
Series A Warrants	179,211	\$ 13.39	178,253	\$ 14.59
Series B Warrants	492,831	\$ 13.39	490,196	\$ 14.59
Series C Warrants	448,029	\$ 13.39	445,633	\$ 14.59
Series A Preferred Stock	5,500	\$ 1,000	—	\$ —
Series B Preferred Stock	—	\$ —	5,500	\$ 1,000

The Series A and Series B Preferred contained weighted average anti-dilution protection. The Series A and Series B Preferred did not accrue dividends. Our common stock was junior in rank to the Series A and Series B Preferred with respect to preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding up of the Company. The Series A and Series B Preferred generally had no voting rights except as required by law. The Series A and Series B Preferred were converted into common stock as set forth below.

Investor may exercise Series A and Series B Warrants by paying in cash or on a cashless basis by exchanging such Warrants for common stock using the Black-Scholes value and the then market price of the common stock. In the event that the common stock trades at a price 25% or more above the exercise price of the Series A and Series B Warrants for a period of 20 consecutive days (with average daily dollar volume of common stock on the OTC Bulletin Board at least equal to \$300,000), we may obligate Investor to exercise such Warrants for cash.

Pursuant to the registration rights agreements with Investor, we filed registration statements within 30 days of the Initial Closing of the Purchase Agreements. The registration statements covered the resale of all shares of common stock issuable pursuant to the Purchase Agreements, including the shares of common stock underlying the Series A and Series B Preferred and Series A, B and C Warrants. We agreed to prepare and file amendments and supplements to the registration statements to the extent necessary to keep the registration statements effective for the period of time required under the Purchase Agreements. The registration rights agreements also contain provisions providing for monthly penalties of \$75,000 plus interest in certain circumstances, including in the event the prospectus contained therein is not properly available for any reason. On April 11, 2014, we made a payment of \$75,000 to Investor due to the suspension of use of the prospectus pending the filing of our Form 10-K/A containing the auditor attestation report on internal controls.

The Series A and Series B Preferred and the Series A, B and C Warrants each contain a 9.9% “blocker” so that in no event shall the Series A and Series B Preferred or any of the Series A, B and C Warrants be convertible or exercisable (including through the cashless exercise exchange provision) into or for common stock to the extent that such

conversion or exercise would result in Investor having “beneficial ownership” (within the meaning of Section 13(d) of the Securities Exchange Act of 1934, as amended) of more than 9.9% of the common stock. Investor would, however, have the right from time to time to convert, exercise or exchange for shares of common stock, which over time would aggregate to greater than 9.9% beneficial ownership if all such shares of common stock so acquired had been held at one time by Investor.

On January 8, 2013, we exercised our option and converted the Series A Preferred into 424,383 shares of our common stock at a conversion price of \$12.96 per share and on April 25, 2013, Investor effected the cashless exercise of the Series A and Series B Warrants related to the Initial Purchase Agreement. Also, on

34

TABLE OF CONTENTS

August 14, 2013, we exercised our option and converted the Series B Preferred into 705,128 shares of our common stock at a conversion price of \$7.80 per share. On January 22, 2013, we exercised our option to repurchase the Series C Warrants related to the Initial Purchase Agreement and on August 14, 2013, we exercised our option to repurchase the Series C Warrants related to the Second Purchase Agreement for \$50,000 and \$10,000, respectively.

Fiscal 2012

On June 21, 2012, we closed a private placement of our common stock. We issued and sold 592,943 shares of common stock at a purchase price of \$2.60 per share (which is equal to a 20% discount to the average volume, weighted average price of the common stock for the ten trading days prior to the closing) to an “accredited investor,” as defined in regulations promulgated under the Securities Act, for gross proceeds of \$1,542,600.

On August 10, 2012, we closed a private placement of our common stock. We issued and sold 137,761 shares of our common stock at a purchase price of \$2.60 per share to “accredited investors,” as defined in regulations promulgated under the Securities Act, for gross proceeds of \$358,400.

On September 27, 2012, we closed a private placement of our common stock. We issued and sold 18,688 shares of our common stock at a purchase price of \$10.70 per share to “accredited investors,” as defined in regulations promulgated under the Securities Act, for gross proceeds of \$200,000.

Fiscal 2011

Since October 1, 2010, we issued and sold an aggregate of \$1,850,000 in principal amount of senior secured convertible notes bearing interest at a rate of 10% per annum to “accredited investors,” as defined in regulations promulgated under the Securities Act. The notes are convertible, in whole or in part, at any time, at the option of the noteholders, into either (A) such number of shares of common stock determined by dividing (i) the principal amount of each note, together with any and all accrued and unpaid interest and penalties, by (ii) a conversion price which is equal to a 20% discount to the average volume, weighted average price of our common stock for the ten trading days prior to issuance (the “Common Conversion Price”) or (B) securities issued in any Subsequent Financing (“Subsequent Securities”) at a conversion price equal to 80% of the price per Subsequent Security paid by investors for Subsequent Securities in a Subsequent Financing (the “Subsequent Financing Price”). The conversion prices of the notes range between \$1.85 and \$3.32. A “Subsequent Financing” is the sale by the Company or an affiliate thereof of securities at any time after the date of issuance of the notes and prior to the earlier of (i) a Qualified Financing or (ii) the one year anniversary of the issuance of the notes. A noteholder may convert its notes in whole in connection with any one Subsequent Financing or in part in connection with one or more Subsequent Financings. The notes shall be automatically converted upon the earlier of (I) the one year anniversary of their issuance and (II) the completion of a Qualified Financing at the election of each noteholder into either (A) shares of common stock at the Common Conversion Price, (B) Subsequent Securities at a conversion price equal to 80% of the Subsequent Financing Price, or (C) securities issued in a Qualified Financing (the “Qualified Financing Securities”) at a conversion price equal to 80% of the price per Qualified Financing Security paid by investors for the Qualified Financing Securities in the Qualified Financing. A “Qualified Financing” is the sale by the Company or an affiliate thereof of securities resulting in gross proceeds (before transaction fees and expenses) in a single transaction equal to or in excess of \$10 million. The notes bear interest at the rate of 10% per annum and are due and payable in full on the one year anniversary of issuance of the notes. Until the principal and accrued but unpaid interest under the notes are paid in full, or converted into Conversion Shares pursuant to their terms, our obligations under the notes will be secured by a lien on all our assets, including the assets of APDN (B.V.I.) Inc., our wholly-owned subsidiary.

On July 15, 2011, we closed a private placement of our common stock. We issued and sold 1,754,386 shares of common stock at a purchase price of \$2.85 per share to accredited investors for gross proceeds of \$5,000,000.

A registered broker dealer firm acted as our placement agent with respect to the private placement. In connection with the private placement, we paid placement agent commissions and discounts aggregating \$265,000. In addition, the placement agent or its designees were issued warrants with a seven-year term to purchase an aggregate of 126,316 shares of common stock with an exercise price of \$2.85 per share.

TABLE OF CONTENTS

Subsequent Events

On July 14, 2014, we were awarded a Phase II SBIR contract by the U.S. Missile Defense Agency (“MDA”) for avoidance of counterfeit parts by expanding the scope and scale of our existing SigNature DNA[®] technology platform established in our Phase I SBIR contract for Federal Supply Class 5962 electronic components, and by developing an optical reader. The contract provides for monthly payments to us totaling approximately \$975,000 over a two year period.

On August 28, 2014, we were awarded a two-year development contract by the Office of the Secretary of Defense on behalf of DLA in the amount of \$2.97 Million. The Rapid Innovation Fund project will develop a single authentication platform — our Signature DNA and complementary technologies — to identify authentic products and deter counterfeits from infiltrating six Department of Defense Federal Supply Groups (“FSGs”).

Those FSGs are, in order of risk to DLA:

1.
 - FSG 59 (Electrical and Electronic Equipment Components)
2.
 - FSG 31 (Bearings)
3.
 - FSG 25 (Vehicular Equipment Components)
4.
 - FSG 29 (Engine Accessories)
5.
 - FSG 47 (Pipe, Tubing, Hose and Fittings)
6.
 - FSG 53 (Hardware and Abrasives)

Our DNA marking solution currently protects items in Department of Defense Federal Supply Class (FSC) 5962, Microcircuits. This project will demonstrate our authentication solutions for the other high-risk commodities above. We will perform services such as development, test and evaluation, field trials, and transition to government operations.

On August 28, 2014, our stockholders approved a reverse split of our common stock, in a ratio to be determined by our Board of Directors, of not less than one-for-40 nor more than one-for-60. Our one-for-60 reverse split was effective on October 29, 2014.

On September 11, 2014, we issued and sold promissory notes in the aggregate principal amount of \$1,800,000 and bearing interest at a rate of 12.5% per annum. See “Recent Debt and Equity Financing Transactions — Fiscal 2014” for more information.

On October 28, 2014, we entered into a warrant repurchase option agreement with the Investor, pursuant to which we have the option to purchase between 50% and 100% of the Investor’s Series B Warrant (currently exercisable for 387,621 shares of common stock) at a purchase price of \$10.55 per share underlying such Series B Warrant (up to an aggregate purchase price of \$4,091,000 for all of the Series B Warrant). In the event we desire to repurchase less than 100% of Series B Warrant, we will require the consent of the Investor at the time of such repurchase. The purchase

option expires on November 22, 2014. We currently intend to repurchase 100% of the Series B Warrant for \$4,091,000.

On November 11, 2014, Dr. James A. Hayward, our President, Chairman and Chief Executive Officer, and another individual agreed to exchange for cancellation their promissory notes in the amounts of \$1,000,000 and \$800,000, respectively, and accrued interest thereon for 315,171 shares of common stock and warrants to purchase 315,171 shares of common stock, in the case of Dr. Hayward, and 252,137 shares of common stock and warrants to purchase 252,137 shares of common stock, in the case of the other individual, at the public offering price of this offering.

Product Research and Development

We anticipate spending approximately \$2,400,000 for product research and development activities during the next twelve months. As disclosed elsewhere in this prospectus, on July 14, 2014 we were awarded a two-year Phase II SBIR contract by the U.S. Missile Defense Agency for \$975,000, and on August 28, 2014 we were awarded a two-year development contract for \$2.97 million by the Office of the Secretary of Defense on behalf of the Defense Logistics Agency. We also have pilot studies underway for industrial materials and textile companies.

36

TABLE OF CONTENTS

Acquisition of Plant and Equipment and Other Assets

We do not anticipate the sale of any material property, plant or equipment during the next 12 months.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Inflation

The effect of inflation on our revenue and operating results was not significant.

Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

We do not believe we are exposed to material direct risks associated with changes in interest rates other than with our cash and cash equivalents. At September 30, 2013 we had \$6,360,301 in cash and cash equivalents, the interest income from which is affected by changes in interest rates for the year ended September 30, 2013 was \$1,272.

Equity Risk

We are exposed to market risk with respect to the valuation of our warrant liability with a fair value of \$2,643,449 at September 30, 2013. The fair value calculation, as discussed in footnote F of the September 30, 2013 consolidated financial statements, is exposed to market volatilities, changes in the price of our common stock and interest rates. Our loss on the change in fair value of the warrant liability for the year ended September 30, 2013 was \$7,508,146.

Foreign Exchange Risk

The majority of our revenues and expenses are transacted in U.S. dollars. As a portion of our sales activities is outside of the United States, we have foreign exchange exposure to non-U.S. dollar revenues. However, we do not believe that foreign currency fluctuations materially affect our results of operations but may in the future if we expand our international sales. For the year ended September 30, 2013 our foreign currency transaction gain/loss was de minimis.

37

TABLE OF CONTENTS

BUSINESS

Overview

Using biotechnology as a forensic foundation, we create unique security solutions addressing the challenges of modern commerce. Whether working in supply chain security, brand protection or law enforcement applications, it is our goal to help establish secure flourishing environments that foster quality, integrity and success. With secure taggants, high-resolution DNA authentication, and comprehensive reporting, our botanical DNA-based technologies are designed to deliver what we believe to be the greatest levels of security, deterrence and legal recourse strength.

SigNature ® DNA. SigNature DNA is our platform ingredient, at the core of all our security solutions. From application to application the vehicle which carries SigNature DNA is custom designed to suit the application. Exhaustive development efforts have yielded a flexible and durable marker with all the accuracy provided by nature. SigNature DNA is based on full, double stranded plant DNA, and provides forensic power and protection for a wide array of applications. Highly secure, robust and durable, SigNature DNA markers are an ingredient that can be used to fortify brand protection efforts; mark, track and convict criminals; and strengthen supply chain security. Custom DNA sequences can be embedded into a wide range of host carriers including ink, varnish, thread, laminates and metal coatings. These items can then be tested for the presence of SigNature DNA Markers through optical screening or a forensic level authentication. Hundreds of millions of SigNature DNA marks now exist in the public domain on items ranging from consumer product packaging to microcircuits to guitars. We believe that no marks have ever been copied.

SigNature DNA, SigNature ® T DNA, fiberTyping ®, DNANet ® and digitalDNA ®, our principal anti-counterfeiting and product authentication solutions and our Counterfeit Prevention Authentication Program can be used in numerous industries, including microcircuits and other electronics, cash-in-transit (transport and storage of banknotes), textiles and apparel, automotive, printing and packaging, homeland security, law enforcement and home asset marking, identity cards and other secure documents, industrial materials, agrochemicals, pharmaceuticals, consumer products, food and beverage, fine wine, and art and collectibles.

SigNature T DNA and fiberTyping. There is one common thread that runs through the global textile industry: success breeds counterfeiting and diversion. SigNature T botanical DNA markers are used for brand protection efforts and raw material source compliance programs. In situations where natural fibers like cotton or wool are utilized, we can isolate and type inherent DNA, making it possible to verify the presence of specified materials. This fiberTyping process provides DNA verification to help manufacturers, retailers and brand owners ensure quality, safety and compliance of their products.

DNANet. Recognizing that DNA-based evidence is the cornerstone of the modern era of law enforcement, we have created what we believe to be an effective crime fighting tool: DNANet, a botanical DNA marker that can be used to definitively link evidence and offenders to specific crime scenes. Whether deployed as a residential asset marker, an offender spray or fog in a retail location or a degradation dye in cash handling boxes, DNA markers facilitate conviction, and establish a heightened level of deterrence. DNANet, which includes our SmartDNA product line, is a unique security system and effective crime protection system for stores, warehouses, banks, pharmacies, ATMs and the protection of valuables. The system contains a water-based, non-toxic spray which may be triggered during a crime, marking the perpetrator and remaining on their person for weeks after the crime. Each unit is designed to be unique to each store, warehouse or sting operation, allowing the police and prosecutors to link criminals to the crimes. Assets acquired from RedWeb Technologies including Sentry 500 Intruder Spray Systems and Advanced Molecular Taggant Technology and our SmartDNA product line are now included in the DNANet family of products.

digitalDNA. digitalDNA is a security solution that utilizes the flexibility of mobile communications, the instant accessibility of secure, cloud-based data, and the certainty of DNA to make item tracking and authentication fast, easy and definitive, while providing the opportunity to create a new customer interface. digitalDNA begins with a DNA-secured form of the QR (“quick read”) code or other two dimensional code. A unique identification code is created for each article, and represented in an easy-to-read QR style

TABLE OF CONTENTS

barcode. The product uses forensic authentication of a botanical DNA marker, embedded within a secure QR code, and physically included within the ink used to digitally print the code. Should there ever be a question about the validity of a digitalDNA code, a laboratory-based analysis can be conducted to determine authenticity.

Counterfeit Prevention Authentication Program. Our turnkey program for electronics, military, commercial, and aerospace contractors called the Counterfeit Prevention Authentication Program (“CPA” Program) empowers end-users to verify the originality or provenance of parts which have been marked by their suppliers with our SigNature DNA Markers.

Corporate History

We are a Delaware corporation, which was initially formed in 1983 under the laws of the State of Florida as Datalink Systems, Inc. In 1998, we reincorporated in Nevada, and in 2002, we changed our name to our current name, Applied DNA Sciences, Inc. In December 2008, we reincorporated from Nevada to the State of Delaware.

In November 2005, our corporate headquarters were relocated from Los Angeles, California to the Long Island High Technology Incubator at Stony Brook University in Stony Brook, New York, where we established laboratories for the manufacture of DNA markers and product prototypes, and DNA authentication. The address of our corporate headquarters is 50 Health Sciences Drive, Stony Brook, New York 11790, and our telephone number is (631) 240-8800. We maintain a website at www.adnas.com where general information about us is available. The information on, or that may be accessed through, our website is not incorporated by reference into and should not be considered a part of this prospectus or the registration statement of which it is a part.

To date, we have had a limited operating history, and as a result, our operations have produced limited recurring revenues from our services and products; we have incurred expenses and have sustained losses.

Industry Background

Counterfeiting, product diversion, piracy, forgery, identity theft, and unauthorized intrusion into physical locations and databases create significant and growing problems to companies in a wide range of industries as well as governments and individuals worldwide. Counterfeiting is a truly global problem and it is a problem that appears to be increasing. Revenues generated from counterfeit product sales are estimated to have grown by more than 400% since the early 1990s, while sales of legitimate brands grew just 50% over the same timeframe (The 2012 Global Report on Counterfeiting: Anti-Counterfeiting and The Apparel Industry — February 2012)). The ICC (International Chamber of Commerce) in February 2011 issued an updated report on counterfeiting and piracy that states that the global economic and social impacts of counterfeiting and piracy could reach \$1.7 trillion by 2015 (the anti-piracy consortium Business Action to Stop Counterfeiting and Piracy (BASCAP) of the International Chamber of Commerce (ICC): “HP Anti-counterfeiting Africa Conference Impacts on Corporate World”).

Counterfeiting is one of the fastest growing economic crimes of modern times. It presents companies, governments and individuals with a unique set of problems. What was once a cottage industry has now become a highly sophisticated network of organized crime that has the capacity to threaten the very fabric of national economies, endanger safety and frequently kill. It devalues corporate reputations, hinders investment, funds terrorism, and costs hundreds of thousands of people their livelihood every year.

As more and more companies begin to address the problem of counterfeiting, we expect that different systems will compete to be the leading standards by which products can be tracked across world markets. Historically, counterfeiting, product diversion and other types of fraud have been combatted by embedding various authentication systems and rare and easily distinguishable materials into products, such as radio frequency identification (“RFID”) devices holograms in packaging, integrated circuit chips and magnetic strips in automatic teller machine cards, banknote threads on currency, elemental taggants in explosives, and radioactivity and rare molecules in crude oil. We believe these techniques are effective but have generally been reverse-engineered and replicated by counterfeiters, which limit their usefulness as forensic methods for authentication of the sources of products and other items.

TABLE OF CONTENTS

Products and Services

Every living organism has a unique DNA code that determines the character and composition of its cells. The core technologies of our business allow us to use the DNA of everyday plants to mark objects in a unique manner that we believe cannot be replicated, and then identify these objects by detecting the absence or presence of the DNA.

SigNature DNA is at the core of all our security solutions. Our SigNature DNA consists of three steps: creating and encapsulating a specific encrypted DNA segment (sometimes with an associated “Optical Array” that allows for the rapid confirmation of the presence of our SigNature DNA), applying it to a product or other item (which may include derivative chemistries of the SigNature DNA that allow the DNA to permanently bind to the targeted substrate), and detecting the presence or absence of the specific segment (sometimes by the use of specific release agents.) The first two steps are controlled exclusively by us and our certified agents to ensure the security of SigNature DNA Markers. Once applied, the presence of any of our SigNature DNA Markers can be detected by us or a customer in a simple spot test, or a sample taken from the product or other item can be analyzed forensically to obtain definitive proof of the presence or absence of a specific type of SigNature DNA Marker (e.g., one designed to mark a particular product).

SigNature DNA Markers

Creating a Customer or Product-Specific SigNature DNA Marker

Our SigNature DNA Markers are custom manufactured by us to identify a particular class of or individual products or items. Each individual mark is recorded and stored in a secure database in order that we can later detect it. A single SigNature DNA mark will support at least ten authentications in its lifetime. The power of repeated use provides a fully documented audit or evidence trail.

Because DNA is one of the most dense information carriers known, only minute quantities of SigNature DNA are necessary for successful analysis and authentication. As a result, SigNature DNA can fold seamlessly into production and logistics workflows.

SigNature DNA has been subjected to rigorous testing by the Idaho National Laboratory, a U.S. National Laboratory, by CALCE, the largest electronic products and systems research center focused on electronics reliability, and by verified procedures in our labs. The forensic marker has passed all tests across a broad spectrum of materials and has met key military stability standards. SigNature DNA passed a strenuous “red-team” vetting on behalf of the U.S. Defense Logistics Agency. SigNature DNA is now required for use by suppliers on key electronics components provided to the U.S. military.

Hundreds of millions of SigNature DNA marks now exist in the public domain on items ranging from consumer product packaging to microcircuits to guitars; to our knowledge, none has ever been copied.

SigNature DNA Encryption

Our proprietary encryption system allows us to isolate strands of botanical DNA and then fragment and reconstitute them to form unique “DNA chimers”, or encrypted DNA segments, whose sequences are known only to us.

SigNature DNA Encapsulation

Our encapsulation system allows us to apply a protective coating to encrypted DNA chimers, creating a SigNature DNA Marker that is resistant to heat, cold, vibration, abrasion, organic solvents, chemicals UV radiation and other extreme environmental conditions, and so can be identified for hundreds of years after being embedded directly, or into media applied or attached to the item to be marked.

SigNature DNA Embedment

Our embedment system allows us to incorporate our SigNature DNA Markers into a broad variety of media, such as inks, dyes, textile treatments, thermal ribbon thread, laminates, glues, threads, varnishes, adhesives and metal coatings.

TABLE OF CONTENTS

SigNature DNA Authentication

Our forensic level authentication methods allow us to unlock the encrypted DNA chimeras by using PCR (polymerase chain reaction) techniques and proprietary primers that were specifically designed by us to detect the DNA sequences we encrypted and embedded into the product or other item. Detection of the DNA chimeras unique to a particular item or series of items allows us to authenticate its or their origin.

Broad Applicability and Ingestible

Our SigNature DNA Markers can be embedded into almost any consumer product, and virtually any other item. For instance, we believe the SigNature DNA we produce is safe to consume and can be used in pharmaceutical drug tablets and capsules. However, use of our SigNature DNA in ingestible products and drugs may require prior approval of the U.S. Food and Drug Administration (“FDA”).

SigNature T DNA and fiberTyping

Our scientific team was able to develop genetic based assays and protocols to identify DNA markers that are endogenous to a particular plant in order to differentiate between biological strains of cottons. In addition, in the case of Pima cotton, we have developed proprietary technologies to differentiate between Pima (*G. barbadense*) and Non-Pima (*G. hirsutum*) cotton with absolute certainty. In the process, we were also able to develop an approach to attach an exogenous DNA marker to a finished textile product (SigNature T).

SigNature T DNA

SigNature T is a nearly-permanent, forensic identity marker that can be applied to any organic or synthetic fabric. The mark is applied to the fabric at the earliest stage in the supply chain, and can be used to authenticate the originality or origin of the fabric or apparel to which it is applied.

We have demonstrated how our SigNature T DNA can be used to authenticate textiles at all points of the supply chain through to the end user. In addition, we have demonstrated the integration of SigNature T DNA with existing manufacturing processes to produce threads, labels and fabrics manufactured by Yorkshire-based companies and are beginning to work on commercial projects with these companies.

SigNature T markers are precision-engineered and based on botanical (plant) DNA. Additional layers of protection and complexity are added to the mark in a proprietary manner. As for primers, the “key” to unlocking the identity of a particular SigNature T mark, that is unknown to the public and, for practical purposes, cannot be guessed, even by powerful computation. In fibers and fabrics, SigNature T cannot be removed even by harsh and prolonged washes. Similarly, SigNature T cannot be transferred from one garment to another. SigNature T DNA can be incorporated at any point in the textile supply chain as a means to link a genuine product to its original source of manufacture. Our botanical DNA markers can easily be applied to raw cotton fiber, thread, yarn, woven labels or to the finished garment. SigNature DNA is robust, and it can be formulated to be resistant to wash out treatments. Botanical DNA marked textile and apparel products are fully authenticated by our scientific team in our laboratories to ensure that they are truly genuine.

Our technology has proven useful in determining the authenticity of such commonly counterfeited products as Pima cotton and Yorkshire wool.

fiberTyping

fiberTyping is not a marker, but a test of native cotton fiber (only), fiberTyping gives a clear result that determines whether the original cotton DNA is present in your fiber, yarn or fabric. A small sample of the material, is sent to our labs, and analyzed.

Cotton classification and the authentication of cotton geographic origin are issues of global significance, important to brand owners and to governments that must regulate the international cotton trade. The use of DNA to identify the cotton fiber content of finished textiles is a significant opportunity for license holders to control their brand and for governments to improve their ability to enforce compliance with trade agreements between nations.

TABLE OF CONTENTS

Products containing premium Extra Long Staple cotton, like Egyptian Giza, Peruvian and American Pima, are recognized by retailers and consumers as being the highest quality cotton in the industry. These refined high end cottons are well regarded due to their durability and quality which, in turn, typically commands premium pricing. In order to preserve the quality and performance of premium cotton products, cotton growers and manufacturers are using state-of-the-art technology, known as fiberTyping ®, to verify that the original Extra Long Staple cotton fibers are used in the finished product. Just as a person's DNA specifies all of their unique qualities, biomaterials typically contain genomic DNA or fragments thereof that can be utilized to authenticate originality. We have developed a proprietary genetic-based assay and protocol to identify DNA markers that are endogenous (internal) to a particular product in order to differentiate between biological strains. Our fiberTyping offering enables our customers and potential clients to cost-effectively give assurance to manufacturers, suppliers, distributors, retailers and end-users that their products are authentic, that they are made from the fibers and textiles as labeled. Biomaterials can now be tracked from field to final purchase guaranteeing the authenticity of the item. As we are testing for innate genomic DNA, we believe these assays cannot be counterfeited. In addition to the global cotton trade, the markets for fiberTyping include biotherapeutics, nutraceuticals, natural foods, wines and fermented alcohols and other natural textiles.

We believe that our DNA extraction protocol and methodologies are more effective than existing forensic systems. We believe that the combination of our SigNature DNA and fiberTyping solutions covers the total authentication market, is applicable to multiple industry verticals, and can mark physical products on the front end and authenticate forensic DNA sequences on the back end.

DNANet

Introduced in 2011, smartDNA, which is now a part of the DNANet family, is a unique security system. DNANet intruder tagging systems help to expand and strengthen any security effort by providing a means of directly linking criminals to crimes. In the event of a crime, the fleeing offender is sprayed with an indelible DNA-marked fluorescing dye. As the crime is investigated, the fluorescing DNA mark can assist police in linking the offender and stolen items to a specific crime scene, creating a greater ability to identify and convict. DNANet tactical DNA product, in the form of DNA-marked fixative sprays and liquids as well as transferable grease, are being marketed to global police forces. DNANet is a tactical forensic system providing unique DNA codes for covert operations that require absolute proof of authentication. Assets acquired from RedWeb Technologies, including Sentry 500 Intruder Spray System and Advanced Molecular Taggant Technology are included in the DNANet family of products.

digitalDNA

digitalDNA ® is a security tool that utilizes the flexibility of mobile communications, the instant accessibility of secure, cloud-based data, and the absolute certainty of DNA to make item tracking and authentication fast, easy and definitive, while providing the opportunity to create a new customer interface. digitalDNA is a DNA-secured form of the QR ("quick read") code or other two dimensional code.

A unique identification code is created for each article, and represented in an easy-to-read QR-style barcode. Separately, forensic botanical DNA markers can be physically included within the ink used to digitally print the barcode.

Should there ever be a question about the validity of a digitalDNA code, a laboratory-based analysis can be conducted to determine authenticity.

Counterfeit Prevention Authentication (CPA) Program

The program empowers end-users to verify the originality of parts which have been marked by their suppliers with our SigNature ® DNA mark. The utilization of our technology has now reached the point where end-users in electronics — such as prime defense contractors and commercial manufacturers — are able to authenticate the SigNature DNA mark on incoming items even if those end-users did not themselves initiate the marking. In this context, the CPA Program provides an accessible and immediate action for companies whose suppliers are currently marking with SigNature DNA. Over 500,000 electronic parts have already been marked. These SigNature DNA-marked parts are now circulating in the electronics supply chain, providing end-users with unprecedented ability to identify parts or gain valuable traceability data.

TABLE OF CONTENTS

Our Strategy

To date, the substantial portion of our revenues has been generated from sales of our Signature DNA and fiberTyping, our principal anti-counterfeiting and product authentication solutions. We expect to continue to grow revenues from sales of our SigNature DNA, fibertyping, DNANet and digitalDNA offerings. Key aspects of our strategy include: Customize and Refine our Solutions to Meet Potential Customers' Needs

We are continuously improving and expanding our product offerings by testing the incorporation of our technologies into different media, such as newly configured labels, inks or packing elements, for use in new applications. Each prospective customer has specific needs and employs varying levels of existing security technologies with which our solution must be integrated. Our goal is to develop a secure and cost-effective system for each potential customer that can be incorporated into that potential customer's products or items themselves or their packaging so that they can, for instance, be tracked throughout the entire supply chain and distribution system.

Continue to Enhance Detection Technologies for Authentication of our SigNature DNA Markers

We have also identified and are further examining opportunities to collaborate with companies and universities to develop a new line of detection technologies that will provide faster and more convenient ways to authenticate our SigNature DNA Markers. The strength of our security solutions is based on a multi-layered architecture with DNA as a forensic foundation, optical markers for screening and detection, and barcode indicia for tracking within an IT system. We have active programs in each of these areas to deliver increased complexity to our mark against copying as well as to provide more information from each mark at a user's time and location of decision. In particular a next-generation optical mark reader, coupled with enhanced chemical markers, will be introduced for companies who desire to increase screening for our marked goods originating from or passing through their facilities.

Target Potential High-Volume Markets

We will continue to focus our efforts on target vertical markets that are characterized by a high level of vulnerability to counterfeiting, product diversion, piracy, fraud, identity theft, and unauthorized intrusion into physical locations and databases. Today our current target markets include microcircuits and other electronics, cash-in-transit (transport and storage of banknotes), textiles and apparel, automotive, printing and packaging, homeland security, law enforcement and home asset marking, identity cards and other secure documents, industrial materials, agrochemicals, pharmaceuticals, consumer products, food and beverage, fine wine, and art and collectibles. If and when we have significantly penetrated these markets, we intend to expand into additional related high volume markets.

Pursue Strategic Acquisitions and Alliances

We intend to pursue strategic acquisitions of companies and technologies that strengthen and complement our core technologies, improve our competitive positioning, allow us to penetrate new markets, and grow our customer base. We also intend to work in collaboration with potential strategic partners in order to continue to market and sell new product lines derived from, but not limited to, DNA technology.

Target Markets

We have begun offering our products and services in Europe, the United States and Asia. At the present time, we are focusing our efforts on microcircuits and other electronics, cash-in-transit, textile and apparel, automotive, and printing and packaging businesses. In the future, we plan to expand our focus to include homeland security, law enforcement and home asset marking, identification cards and other secure documents, industrial materials, agrochemicals, pharmaceuticals, consumer products, food and beverage, fine wine, and arts and collectibles.

Present Markets:

Microcircuits and other electronics

The global trade in recycled electronics parts is enormous and growing rapidly, driven by a confluence of cost pressures, increasingly complex supply chains and the huge growth in the amount of electronic

TABLE OF CONTENTS

waste disposed around the world, especially Asia. Recycled parts, relabeled and sold as new, threaten not only military systems but also commercial transportation systems, medical devices and systems, and the computers and networks that run today's financial markets and communications systems. The vast majority of counterfeits discovered in military equipment are semiconductors, the stamp-sized silicon wafers that act as the "brains" of nearly every type of modern electronic system. According to an article in DefenseOne (Counterfeits Can Kill U.S. Troops. So Why Isn't Congress and DoD Doing More to Stop it? — August 8, 2013), the U.S. military is an important consumer of these tiny products; a single F-35 Joint Strike Fighter jet is controlled by more than 2,500 semiconductors.

In 2011, the General Accounting Office (GAO) issued, under the name of an imaginary OEM, open RFPs on the internet for electronic parts (GAO — Report to the Committee on Armed Services — US Senate — February 2012). All of the part numbers requested were either post-production or entirely fictional. The GAO received seven prototype parts in response to its RFP: every single one was counterfeit. In the over \$300 billion semiconductor global market for 2013 this would amount to \$15 billion (Global Chip Revenue Rises in 2013, Reversing Loss from Earlier Year; Memory and Wireless Lead the Way — April 23, 2014). The proliferation of counterfeit parts in the supply chain has reached epidemic heights.

In a January 2013 report on a four-year study conducted between 2005 and 2008, the U.S. Department of Commerce revealed that 39% of 387 companies encountered counterfeit electronic components, microcircuits, or circuit boards. Some industry statistics even suggest that counterfeit parts account for 10% of all electronic equipment sold. In fact, counterfeiters are becoming far more adept at passing off bogus parts by leveraging the same sophisticated technologies that chip manufacturers use to produce authentic ones. Laser equipment re-marks parts appear as if they are products of a specific manufacturer with a later date code (Embedded Intel Solutions — Counterfeit Parts are on the Rise).

Since November 15, 2012, the Defense Logistics Agency ("DLA"), an Agency within the U.S. Department of Defense, requires that defense contractors provide items that have been marked with botanically-generated DNA produced by us or our authorized licensees. This requirement has been in place for items falling within Federal Supply Class (FSC) 5962, Electronic Microcircuits, which have been determined to be at high risk for counterfeiting.

On September 11, 2014, DLA announced that beginning on December 15, 2014, DLA will no longer issue solicitations requiring suppliers to provide DNA marked FSC 5962 microcircuits. Instead, DLA's Electronic Test Laboratory in Columbus, Ohio will DNA mark all FSC 5962 microcircuits. This change will create a centralized, streamlined DNA marking process within DLA. We are working closely with DLA on a transition plan that may take approximately one year to accomplish.

The new DLA program to mark parts with our DNA product at their facility could contain financial risk to our company. The new program should also result in a far more streamlined, and scaled-up process, which could reduce certain costs by providing economies of scale, and benefits of marking technology geared to high-volume operations. It would, unlike today, be governed by a single direct contract with DLA.

Cash-in-Transit

Cash-in-transit businesses transport and store cash and ATM cassettes. In the U.K. alone, there is an estimated £500 billion being transported each year, or £1.4 billion per day (British Security Industry Association: "Combating Cash Delivery Crime"). The nature of this business makes cash-in-transit an attractive target for criminals and as a result the industry invests in excess of £100 million per year in security equipment and devices. The incidence of cash-in-transit based crime had increased over 170% in London between 2005 and 2008, according to the Metropolitan Police.

Governments and banks today face the real challenge of staying ahead of increasingly sophisticated counterfeiting without sacrificing security features and banknote longevity to costs. Since 2008, there have been thirty-two instances where criminals have been convicted of crimes where SigNature DNA forensic evidence has been provided to UK Police to assist them to secure convictions. These criminal cases have resulted in 88 offenders being convicted and receiving sentences totaling approximately 448 years of imprisonment. According to the FBI, in 2011 alone, more than \$30 million was stolen and just over 100 people were killed or injured in some 5,000 robberies of financial institutions across the nation (Bank Robbery: "Even in this High-tech Age, Old-fashioned Bank Robberies are Still a Cause for Concern").

TABLE OF CONTENTS

We incorporate our SigNature DNA Markers in cash degradation inks that are used in the cash-in-transit industry in countries throughout Europe. This solvent-based ink marks bank notes if the cash box is compromised and has the ability to penetrate the bank notes rapidly and permanently. We believe our SigNature DNA Markers are more resilient and detectable than other competing technologies.

Textiles and Apparel

Cotton classification and the authentication of cotton geographic origin are issues of global significance, important to brand owners and to governments that must regulate international cotton trade. We believe that our SigNature T DNA and fiberTyping solutions could have significant potential applications for the enforcement of cotton trade quotas in the U.S. and across the globe, and for legislated quality improvement within the industry. We believe that similar issues face the wool and other natural product industries and have begun to introduce our products to these markets as well. In addition, our digitalDNA system can be used to provide track and trace capability for labels on finished garments to protect against counterfeiting and diversion.

Products containing premium Extra Long Staple cotton, like Egyptian Giza, Peruvian and American Pima, are recognized by retailers and consumers as being the highest quality cotton in the industry. These refined high end cottons are well regarded due to their durability and quality which, in turn, typically commands premium pricing. According to Havoscope and the Coalition Against Counterfeiting and Piracy, the market value of counterfeit clothing is \$12 billion. In recent years, apparel accounted for 14% of the total counterfeit goods seized by U.S. agencies. Cass Johnson, with the National Council of Textile Organizations says counterfeit fabrics cost a billion dollars every year in lost tariffs to the United States. Britain's fashion industry is worth around \$57 billion to the economy, but counterfeit clothing and footwear is estimated to cost designer brands and retailers around \$5.4 billion each year.

Our SigNature T DNA anti-counterfeiting system for DNA marking and authentication of wool and cotton fibers is currently in use by our customers. We are now marking product in the United States and abroad to assure integrity of the textile supply chain. Our SigNature T commercial program involves the creation of a unique SigNature T DNA marker that will be used to mark one customer's Extra Long Staple Pima cotton at the ginning stage. Once marked, the premium cotton fiber may be authenticated for textile identity from grower to ginner to spinner to manufacturer to distributor to retailer. At each step of the process, its textile identity will be tested to link the original cotton fiber to finished product, preserving the authenticity of the product and the integrity of the supply chain.

Automotive

Car theft affects thousands of people each year and has more wide-ranging impacts than simply the loss of a vehicle. It can be an difficult and traumatic time for the victims and have many emotional as well as financial consequences. In addition to the car owner, motor vehicle crime also affects car manufacturers, law enforcement agencies, registration authorities, insurance companies, legislative bodies, justice departments and vehicle related businesses, such as rental companies and scrap yards.

Interpol reported that for the year ending December 31, 2013, they had received 7.2 million records of reported stolen motor vehicles from 130 different countries (Interpol — Database Statistics). According to the FBI, a motor vehicle was stolen in the United States every 44 seconds in 2012 and the value of the stolen motor vehicles was more than \$4.3 billion.

Car crime is a huge and profitable business, costing billions of dollars per year and representing approximately one third of all reported crime. It is estimated that approximately 70 percent of stolen cars are broken up and sold for spare parts, while the rest are given a false identity and sold, with many of those being exported to the Middle and Far East. Our DNANet product is currently being used to combat car theft. New cars are marked with a unique code applied at point of delivery to the customer and customer details are registered on a secure database. If the car is stolen and recovered, police would be able to link the criminal to the crime, and would know exactly where to return the vehicle. Highly visible warning stickers are displayed on the windshield of the car, deterring theft in the first place. Since 85% of stolen cars are taken after theft of car keys, other kinds of crime, such as home burglaries, also would be deterred.

TABLE OF CONTENTS

Our SigNature DNA mark is being used to protect two European automotive manufacturers against the theft of automotive parts imported into at least one E.U. country. A unique, botanical DNA-based mark is designed and applied to multiple locations on the vehicle. The SigNature ® DNA mark provides absolute identification for the vehicle, while also recording the name of the owner of that vehicle in a secure database. The marks are covert and difficult to remove. If found, vehicles and their component parts are traceable back to its owner and location, from anywhere on the globe.

Printing and Packaging

The scourge of counterfeiting in packaging has greatly intensified in recent years. Counterfeiting has spiked, causing detrimental health concerns for consumers, safety concerns for law enforcement agencies, and financial concerns for businesses worldwide. As a result, the global anti-counterfeit packaging market is estimated to reach approximately \$128.6 billion by the year 2019, according to MarketsandMarkets.

Billions of dollars per year are at stake for companies as they seek ways to ensure that the products sold with their logos and branding are authorized and authentic. The proliferation of counterfeiting requires brand owners and their converter/printer partners to work together to create a multi-layered protection plan so that their packaging and labels protect their brands and deter those trying to profit at their (and their reputation's) expense.

Counterfeiters have become so good at their unlawful activity that spotting the difference between legitimate and counterfeit products can be daunting. They have many ways to subvert legitimate brands. They may take an out-of-date — but legitimate — product and sell it in packaging and labels that have been faked. Sometimes, everything — including the packaging, labels and product itself — is counterfeit. Criminals might also use legitimate packaging with knock-off products.

We believe that our DNA taggants are the most advanced and secure technology available to the printing and packaging industries to combat counterfeit products. Our SigNature ® DNA taggants offer a high level of security and flexibility in a cost-effective and easy-to-use format to suit the requirements and budget of any company. They can be either added to the substrate itself or to the ink or toner to act as a trace without impacting the quality of the ink or the substrate and without being able to be removed. A specialized reader is required to detect SigNature DNA and verify that a product is authentic. Our technology is versatile and is currently being used on packaging of food products by Nissha. Nissha uses SigNature DNA-based ink with its inkjet printing systems to help secure the fresh fish supply chain for the Ōita Fisheries Co-operative. The Ōita fish label is automatically linked to a central database that enables the food supplier, retailer as well as the end consumer to verify the original product information at the point of sale. In the future, it is our goal to be able to mark food and beverages directly with our safe and secure SigNature DNA taggants. We have entered into a Certified Partner Program with six organizations. This program assures end-users of compliance with our standards for quality, reliability and security. The Program is organized into six Certified Partner category types: Marking, Printer, Equipment, Services, Test and Software Partners. Partnering with companies in each of these areas across an array of industries will provide a portfolio of solutions to the marketplace.

Future Markets:

Homeland Security

The U.S. military is facing the challenge of the increasing intrusion of counterfeit electronics and other parts into its supply lines. This problem is not limited to electronics. Foreign suppliers using substandard materials could be producing rivets, bolts and screws that hold together everything from missile casings to ship ladders. The explosion of counterfeit parts is being driven by an expanding global economy and an emphasis on low-price contracting — both of which come as the U.S. Department of Defense is relying more heavily on older platforms, with parts that are becoming obsolete. The global semiconductor market has been estimated to be as large as \$300 billion per year, all subject to the risks of counterfeiting. The US Department of Defense is estimated to spend \$4 billion per year in the semiconductor market.

TABLE OF CONTENTS

On September 9, 2010, Homeland Security Newswire published an article “Fake chips from China threaten U.S. military systems” in which a U.S. Chamber of Commerce estimate finds that the global market for counterfeit electronics may be as large as \$10 billion. While these references include daunting statistics, the underlying problem has not changed because there was no satisfactory technological solution. Senate hearings in November 2011 revealed the discovery of over 1,800 incidents, totaling over 1 million parts, of counterfeit electronic parts in the defense supply chain (Senate Armed Services Committee Releases Report on Counterfeit Electronic Parts — Monday May 21, 2012). According to the semiconductor industry, counterfeiting results in a \$7.5 billion loss in revenue annually as well as a loss of 11,000 U.S. jobs.

DNA-marking using our SigNature DNA marks, protects the consumer, the government and our service men and women. The manufacturers can ensure that only properly screened, original product goes to users. The same DNA marking can then protect the manufacturers themselves in the form of returned product which they must replace or repair. Broadly applicable, DNA marking could be disseminated as industry best practices and military standards. Our SigNature DNA solution can provide secure, forensic, and cost-effective anti-counterfeiting, anti-piracy and identification solutions to military organizations and other companies supplying microelectronics and similar products globally in need of securing their supply chains.

Law Enforcement and Home Asset Marking

Law enforcement organizations are always seeking a system they can use which will provide absolute proof of authentication. Specifically developed for covert operations, DNANet products form an invisible coating when applied to skin, plastics, metals, glass, wood and fabric.

Forensic marking of home assets uses technology to code valuables at risk of theft to mark burglars, linking them directly with a crime scene. Over the years, authorities have found it difficult to obtain convictions of thieves in possession of suspected stolen property unless the true owner can be identified. We believe that DNANet enhances law enforcement effectiveness by providing forensic quality evidence. We have been working with the UK Metropolitan Police Service (MPS) by providing its proprietary DNANet property marking kits as part of a major initiative to reduce crime in targeted London neighborhoods. Pilot programs are also ongoing in Sweden.

Additional pilot studies are planned or ongoing, formulating our SigNature DNA to be used in other areas of law enforcement including non-lethal ammunition and personal protection products.

Identification Cards and Secure Documents

Governments are increasingly vulnerable to counterfeiting, terrorism and other security threats at least in part because currencies, identity and security cards and other official documents can be counterfeited with relative ease. For instance, Havocscope, a company that collects black market intelligence and identifies security threats, reports that the value of counterfeit identification and passports is currently \$100 million. (Havocscope — Fake IDs bought in the United States) Governments must also enforce the various anti-counterfeiting and anti-piracy regimes of their respective jurisdictions which becomes increasingly difficult with the continued expansion of global trade. Just to highlight the size of the problem, in April 2012 the European Parliament estimated that of the 6.5 million biometric passports in circulation in France between 500,000 and one million are ‘false’ having been obtained using counterfeit documents (Biometric National IDs and Passports: A False Sense of Security — June 19, 2012). Our SigNature DNA platform ingredient can provide secure, forensic, and cost-effective anti-counterfeiting, anti-piracy and identification solutions to local, state, and federal governments as well as the defense contractors and the other companies that do business with them. Our SigNature solution can be used for all types of identification and official documents, such as:

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- passports;
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- lawful permanent resident, or “green” cards;
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- visas;

47

TABLE OF CONTENTS

-
- drivers' licenses;
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- Social Security cards;
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- military identification cards;
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- national transportation cards;
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- security cards for access to sensitive physical locations; and
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- other important identity cards, official documents and security-related cards.

Industrial Materials

The global polyolefin market is witnessing high growth on an account of increasing applications, technological advancements, and growing demand in the Asia-Pacific region. Polyolefins are largely used in industries such as film & sheet (food packaging, stretch & shrink films, trash bags, etc.), injection molding (packaging, automotive & transportation, consumables & electronics, building & construction, etc.), blow molding (blow molded bottles for juice, milk, motor oil, laundry detergents, etc.), and fibers & tapes (building & construction, etc.). Green polyolefins (mainly bio-polyethylene & bio-polypropylene), possess similar properties as that of petroleum-based polyolefin, are gaining popularity. (Polyolefin Markets by Types and Geography — Global Trends and Forecasts to 2018) Companies sell premium-quality plastic products, manufactured under the highest level of quality control and environmental safety control. Such high value products are prime candidates for counterfeiting via addition of cheap surrogates, manufactured as a low quality product with poor environmental safety control. Such counterfeit products would thus command premium pricing while compromising the prestige of the branded products. According to a new technical market research report, Global Market For Polyolefin Resins (PLS052A), from BCC Research, the global size of the polyolefin resins market was valued at \$151.1 billion in 2011. Total market value is expected to reach \$187.5 billion in 2016 after increasing at a five-year compound annual growth rate (CAGR) of 4.4%.

Agrochemicals

In Europe and other areas of the world use of counterfeit and illegally traded pesticides is increasing. Untested and unregulated products may threaten the health of farmers and consumers and pose risks to the natural environment. Counterfeit pesticides that make their way into the United States threaten the integrity of those industries which depend on the benefits of pesticide use.

Fighting counterfeit pesticides is a complex task. We believe that enforcement of European regulations governing pesticide use is inadequate and has led in recent years to an increase in use of illegal, counterfeit pesticides in European countries.

European Crop Protection Association statistics show that nearly 10% of the pesticides used in Europe are counterfeit and that their trafficking provides criminal organizations with an annual revenue of up to EUR 6 billion. According to a report by the European police cooperation body Europol, illegal products account for up to one quarter of all the

crop protection products used in some Member States.

We are currently working in collaboration with a U.S.-based multinational company to SigNature DNA mark, protect and authenticate a crop protection product, and have initiated a pilot program to authenticate the SigNature DNA marker in the product itself, as well as verify the SigNature DNA-marked product after it is applied onto crops in the field. The value to the customer for this application is to ensure the quality and authenticity of the product, to minimize the risk of liability that might occur if the product is not used in compliance with the license agreement that is linked to the product, and ultimately, to ensure that the integrity of the customer's supply chain is preserved. We are in similar discussions with other multinational agrochemical companies to develop customized SigNature DNA programs for other herbicides, insecticides, fungicides and pesticides, although there can be no assurance that these discussions will be successful. We anticipate that these programs will begin with pilot studies that will provide the client with an understanding as to how the SigNature DNA marker and authentication program will perform in the product itself and in the field. We intend to market and sell programs for the digitalDNA track and trace system that can ensure the original product is linked to original packaging, and thus ensuring the integrity of the agrochemical supply chain.

48

TABLE OF CONTENTS

Pharmaceuticals

The pharmaceutical industry also faces major problems relative to counterfeit, diluted, or falsely labeled drugs that make their way through healthcare systems worldwide, posing a health threat to patients and a financial threat to drugmakers and distributors. Counterfeit prescription pharmaceuticals are a growing trend, widely recognized as a public health risk and a serious concern to public health officials, private companies, and consumers. The National Association of Boards of Pharmacy estimates that counterfeit drugs account for 1–2% of all drugs sold in the United States. The World Health Organization (WHO) estimates the annual worldwide “take” from counterfeit drugs to be £13 billion (approximately \$20 billion USD), a figure that is expected to double by the end of this decade. In some countries, counterfeit prescription drugs comprise as much as 70% of the drug supply and have been responsible for thousands of deaths in some of the world’s most impoverished nations, according to the WHO. Counterfeit pharmaceuticals are estimated to be a billion-dollar industry, though some estimate it to be much larger. In 2012, the WHO reported that in over 50% of cases, medicines purchased over the Internet from illegal sites that conceal their physical address have been found to be counterfeit (WHO: Medicines: Spurious/falsely-labelled/falsified/counterfeit (SFFC) medicines Fact Sheet June 2012). According to the WHO, counterfeiting can apply to both branded and generic products and counterfeit pharmaceuticals may include products with the correct ingredients but fake packaging, with the wrong ingredients, without active ingredients or with insufficient active ingredients.

Based on this growing threat, many countries have started to address vulnerabilities in the supply chain by enacting legislation which, among other things, requires a comprehensive system, most often referred to as serialization or in the United States as e-Pedigree (electronic pedigree), initially in California. In its basic form, the regulation states that 50% of all “dangerous drugs” (defined as all prescription drugs) that are distributed in California must be serialized and have an electronic pedigree by January 1, 2015; 100% by January 1, 2016.

ePedigree and serialization requirements will be affecting all aspects of the pharmaceutical supply chain, starting with the manufacturer down through the packager, wholesaler, distributor and final dispensing entity. The ePedigree provides an ‘audit trail’ (or documented evidence) to help to identify and catch counterfeiting and diversion. Serialization requires manufacturers, or in some virtual supply chains third-party packagers, to establish and apply to the smallest saleable unit package or immediate container a “unique identification number.” In some cases, drug makers are spending as much as 8 to 10 per cent of a medicine pack’s total production cost only on solutions to protect it from duplication and counterfeiting, according to company executives. Our unique DNA identifier mark-embedded in the ink of a unique serialized barcode can provide a layered security foundation for a customer solution in this market.

Consumer Products

Counterfeit items are a significant and growing problem with all kinds of consumer packaged goods, especially in the retail and apparel industries. According to the World Customs Organization, European clothing and footwear companies lose an estimated EUR 7.5 billion per year to counterfeiting and Havocscope values the counterfeit clothing market at \$12 billion (Havocscope — Counterfeit Clothing Market Value: \$12 billion). We have developed and are currently marketing a number of solutions aimed at brand protection and authentication for the retail and apparel industries, including the clothing, accessories, fragrances and cosmetics segments. Our SigNature DNA platform ingredient can be used by manufacturers in these industries to combat counterfeiting and piracy of primary, secondary and tertiary packaging, as well as the product itself, and to track products that have been lost in transit, whether misplaced or stolen.

Food and Beverage

Counterfeit food threats are becoming more common as supply chains become more global and as imaging and manufacturing technology become more accessible. There are numerous alarming examples of counterfeit foods that have been reported. For instance, long-grain rice is being labelled and sold as basmati rice, Spanish olive oil is being bottled and sold as Italian olive oil, and mixtures of industrial solvents and alcohol are being sold as vodka. In addition, herbal teas have been found to contain no herbs or tea and juices have been found to contain vegetable oil, which is used as a flame retardant, and labeled tuna turns out to be an unidentifiable concoction of random meats. Although many of these stories have emerged from the UK and Europe, the fake-food problem is also relevant in the United States.

TABLE OF CONTENTS

The National Center for Food Protection and Defense estimates that Americans pay \$10 billion to \$15 billion annually for fake food — often due to product laundering, dilution and intentionally false labeling.

We believe our SigNature DNA taggants and authentication program can help in the battle against counterfeit foods and beverages. Our technology is versatile and is currently being used on packaging of food products by Nissha. Nissha uses SigNature DNA-based ink with its inkjet printing systems to help secure the fresh fish supply chain for the Ōita Fisheries Co-operative. The Ōita fish label is automatically linked to a central database that enables the food supplier, retailer as well as the end consumer to verify the original product information at the point of sale. In the future, it is our goal to be able to mark food and beverages directly with our safe and secure SigNature DNA taggants.

Fine Wine

Vintners and purveyors of fine wine are also vulnerable to counterfeiting or product diversion. We believe our SigNature solutions can provide vintners, purveyors of fine wines and organizations within the wine community several benefits:

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- Verified authenticity increases potential customers' confidence in the product and their purchase decision;
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- For the vintner, the SigNature solutions can strengthen brand support and recognition, and offers the potential for improved marketability and sales; and
-
- SigNature DNA Markers can be embedded in bottles, labels, or both at the winery, and easily authenticated at the location of the wine distributor or auctioneer.

Art and Collectibles

The artworks and collectibles markets are also particularly vulnerable to counterfeiting, forgery and fraud. New works are produced and then passed off as originating from a particular artistic period or source, authentic fragments are pieced together to simulate an original work, and existing works are modified in order to increase their purported value. Such phony artwork and collectibles are then often sold with fake or questionable signatures and “provenance,” or documented ownership histories that confirm authenticity.

We believe our SigNature DNA Markers can safely be embedded in, and so can be used to designate and then authenticate, all forms of artwork and collectibles, including paintings, books, porcelain, marble, stone, bronzes, tapestries, glass and fine woodwork, including frames. We believe they can also be embedded in any original supporting documentation related to the artwork or collectible, the signature of the artist and any other relevant material that would provide provenance, such as:

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- A signed certificate or statement of authenticity from a respected authority or expert on the artist;
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- An exhibition or gallery sticker attached to the art or collectible;
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- An original sales receipt;
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- A film or recording of the artist talking about the art or collectible;
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- An appraisal from a recognized authority or expert on the art or collectible; and
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- Letters or papers from recognized experts or authorities discussing the art or collectible.

Sales and Marketing

We have 11 employees engaged in sales and marketing, of which five are directly involved with sales. We expect to hire additional sales directors and/or consultants to assist us with sales and marketing efforts with respect to our target vertical markets in the areas of pharmaceuticals, printing and packaging and consumer asset marking.

50

TABLE OF CONTENTS

Research and Development

Our research and development efforts are primarily focused on incorporating DNA into carriers (such as ink or textile treatments), and authenticating DNA from the marked substrates. As part of this effort, we typically conduct feasibility and pilot testing to ensure that DNA application methods are compatible with the customer's manufacturing and logistic processes, and that they can be implemented in a cost effective manner. In some cases, the DNA application methods may undergo wash-out and/or adherence tests to ensure that DNA can be authenticated even if it is subjected to aggressive removal techniques. We are also actively involved in identifying new formulation development, and new application methods that provide even better adhesion of DNA to substrates, and more homogeneous distribution of the DNA onto the surface. In short, we have considerable experience working with a wide range of carriers and substrates, and authenticating them even years after they have been applied onto the surface. We believe that our continued development of new and enhanced technologies relating to our core business is essential to our future success. We spent \$692,480 on research and development activities for the year ended September 30, 2013 and \$432,669 for the year ended September 30, 2012.

Raw Materials and Suppliers

Our sources of raw materials include botanical sources of DNA that are readily available in nature, which we are able to replicate to use in our product offerings. In general, our customers provide their materials to us in their own packaging to which we include our DNA products and return to them in their own packaging.

Manufacturing

We have the capability to manufacture SigNature DNA markers, covert DNA ink, and SigNature PCR kits at our laboratories in Stony Brook. We rely upon other companies to manufacture our overt color-changing DNA Ink. We also have in-house capabilities to complete all fiberTyping authentications.

Distribution of our Products and Commercial Agreements

Our products are distributed the following ways:

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- directly to the customer;
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- to a designated third party trained to mark parts for military suppliers (at the request of the customer); and
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- through a licensed distributor.

As of September 30, 2014, we entered into agreements with a few dozen customers to use Signature DNA markers in connection with the DLA program. These include customers at all nodes in the supply chain, including prime contractors, authorized distributors, independent distributors and manufacturers. Over 500,000 electronic components have been marked to this point.

Office of the Secretary of Defense. On August 28, 2014, we were awarded a two-year development contract by the Office of the Secretary of Defense on behalf of the Defense Logistics Agency ("DLA") in the amount of \$2.97 million. The Rapid Innovation Fund project will develop a single authentication platform — our Signature DNA and complementary technologies — to identify authentic products and deter counterfeits from infiltrating six Department of Defense Federal Supply Groups ("FSGs").

Those FSGs are, in order of risk to DLA:

1.
 - FSG 59 (Electrical and Electronic Equipment Components)
- 2.

- FSG 31 (Bearings)

3.

- FSG 25 (Vehicular Equipment Components)

4.

- FSG 29 (Engine Accessories)

5.

- FSG 47 (Pipe, Tubing, Hose and Fittings)

51

TABLE OF CONTENTS

6.

- FSG 53 (Hardware and Abrasives)

Our DNA marking solution currently protects items in DoD Federal Supply Class (FSC) 5962, Microcircuits. This project will demonstrate our authentication solutions for the other high-risk commodities above.

We will perform services such as development, test and evaluation, field trials, and transition to government operations.

U.S. Missile Defense Agency. On July 14, 2014, we were awarded a Phase II SBIR contract by the U.S. Missile Defense Agency to perform research and development for avoidance of counterfeit parts by expanding the scope and scale of its existing SigNature DNA ® technology platform established in its Phase I SBIR contract for Federal Supply Class 5962 electronic components, and by developing an optical reader. The contract provides for monthly payments to us totaling approximately \$975,000 over a two year period.

Borealis Agreement. On March 31, 2014, we and Borealis AG, a provider of polyolefins, signed a term sheet for mutual development and cooperation regarding the supply of markers — and related additives — for polyolefin products. The cooperation between the parties will explore and test the feasibility of the project. The contract provides for initial payments to us aggregating \$350,000, comprised of development and exclusivity fees. The payment of further installments is dependent on achieving specific performance goals over a defined period of less than one year.

3SI Agreement. On August 9, 2011, we entered into a Supplier Agreement, dated as of August 3, 2011 (the “Supplier Agreement”), with 3SI Security Systems, Inc., a manufacturer and seller of asset protection security systems based on ink and smoke staining as well as GPS technology (“3SI”). On the same date, we also entered into a License Agreement with 3SI, dated as of August 3, 2011 (the “License Agreement”). Under the terms of the Supplier Agreement, 3SI will purchase DNA markers and related products (“Markers”) from us to be incorporated into products subject to certain patents (“Licensed Patents”) owned by 3SI (the “Products”). Pursuant to the License Agreement, 3SI granted a nonexclusive irrevocable license to us to make, have made, use, import, offer to sell and sell the Products. Under the terms of the Supplier Agreement, 3SI is permitted to purchase the Products from us from time to time pursuant to purchase orders. The purchase price for the Products will be as set forth in an applicable product schedule for the purchase orders and may be adjusted from time to time pursuant to the terms of the Supplier Agreement. Under the terms of the License Agreement, we agreed to pay an initial payment and royalties to 3SI based on the number of Products sold, with such royalties being subject to adjustment pursuant to the terms of the License Agreement. The terms of the Supplier Agreement and the License Agreement will continue until the expiration of the Licensed Patents, unless earlier terminated under the terms of the respective agreements. Under the terms of the Supplier Agreement, 3SI has the right to immediately terminate upon written notice to us in the event that we fail to continuously maintain a minimum number of Markers to be incorporated into the Products, or upon 30 days written notice to us. Under the terms of the License Agreement, 3SI has the right to immediately terminate upon written notice to us in the event that we fail to continuously maintain a minimum number of Markers, or fail to sell Markers to 3SI for incorporation into the Products for a certain time after being ordered. On March 28, 2014, the License Agreement of August 3, 2011 was terminated and replaced by a “New License Agreement”. Pursuant to the New License Agreement, 3SI granted a nonexclusive irrevocable license to us to make, have made, use, import, offer to sell and sell the Products. No additional payments were made. Under the terms of the New License Agreement, 3SI has the right to immediately terminate upon written notice to us in the event that we fail to comply with the terms of the Supply Agreement.

Nissha Agreement. On December 14, 2009, we entered into a Supply Agreement with Nissha Printing Co., Ltd. (“Nissha”), an international printing company. In the agreement, we agreed to supply our authentication marks to Nissha to be incorporated into their printing ink. We received an initial fee, and we receive an annual fee and authentication mark fee for each unique authentication mark purchased. Additional fees may be received if more than 10 authentications per year are ordered by Nissha.

On November 1, 2011, we entered into an Exclusive Sales Agreement with Nissha, pursuant to which we granted Nissha an exclusive right to sell their printing inks and related products incorporating our SigNature DNA authentication markers, initially for fish and fruit products, publications and wood

52

TABLE OF CONTENTS

applications, in various countries in Asia for an initial period of three years. The exclusivity rights granted to Nissha are conditioned upon Nissha achieving minimum sales targets (or, if below the specified thresholds, paying the shortfall) and payment of annual fees. We also granted Nissha the non-exclusive right to sell their printing inks and related products incorporating our SigNature DNA authentication markers for cosmetics products in the same geographic area during the term of the agreement. We have agreed to supply our SigNature DNA authentication markers to Nissha on pricing terms and conditions to be set forth in the applicable purchase orders.

C.F. Martin & Co. Agreement. On July 18, 2011, we entered into a Joint Development Agreement, dated as of June 30, 2011 with C.F. Martin & Co., Inc., a designer and manufacturer of acoustic guitars, strings for acoustic guitars, and related guitar components and accessories (“Martin”). Under the terms of the agreement, we and Martin jointly developed, created and applied new techniques and know-how for labeling and authenticating guitars, guitar strings and related guitar components and accessories using DNA security markers created by us. Each party shall bear and be responsible for its own expenses and costs of the development and creation of the techniques and know-how. The agreement also provides that Martin shall purchase DNA security markers exclusively from us during the term of the agreement. The term of the agreement will continue until the parties agree that the development and creation of techniques or know-how for labeling guitars or guitar strings with DNA security markers is complete, unless either party terminates the agreement by giving at least sixty (60) days written notice to the other party.

Defense Logistics Agency. On June 17, 2011, we received approval and permission to disclose from the Defense Logistics Agency of the U.S. Department of Defense a time and material subcontract (the “Subcontract”) that we entered into on June 2, 2011 with the Logistics Management Institute (“LMI”). Under the terms of the Subcontract, we will perform work and services for LMI and the DLA relating to a program to demonstrate the functional, technical and business viability of DNA marking technology as an anti-counterfeiting measure by using it in the DLA microcircuit supply chain. The program was divided into six tasks and involves the preparation, implementation and evaluation of marking materials for microcircuit chips and packages, creation of a business case analysis, development of a pricing and transition plan and identification of feasible techniques to apply DNA marks in conjunction with laser marking. The period of performance of the Subcontract was from May 26, 2011 through November 26, 2012. We received payment of \$913,400 under this Subcontract through November 26, 2012, when the contract expired.

DivineRune. We acquired rights to certain software and intellectual property pursuant to an agreement we entered into with DivineRune Inc., a secure cloud-computing specialist, on January 25, 2012. DivineRune was issued a 3 year warrant to purchase 16,667 shares of our common stock at an exercise price of \$4.26 per share vesting in full on the first anniversary of the date of grant as compensation for a license to DivineRune’s patent portfolio. We will also share revenues on any future sales of products generated as a result of this agreement. We expect that the partnership will enhance and extend our core anti-counterfeiting, anti-diversion, and security systems into the digital track-and-trace sphere. James A. Hayward, our President, Chairman and Chief Executive Officer, and Yacov Shamash, a member of our Board of Directors, were among the early investors in DivineRune.

RedWeb Asset Purchase. On May 10, 2013, we entered into an Asset Purchase Agreement (the “Asset Purchase Agreement”) with RedWeb Technologies Limited (“RedWeb”), a corporation incorporated and registered under the laws of England & Wales, to purchase certain assets of RedWeb (“Purchased Assets”) relating to its forensic tagging security system for a purchase price of £400,000 (\$624,080). We completed the acquisition of the Purchased Assets on the same day. The Purchased Assets include RedWeb’s Sentry 500 Intruder Spray System, RedWeb’s Advanced Molecular Taggant Technology and all products relating thereto, certain intellectual property and supplies relating to the foregoing. £40,000 (\$62,408) of the purchase price was held in escrow for up to one year to be applied against the indemnification obligations of RedWeb pursuant to the Asset Purchase Agreement. During May 2014, the escrow account was closed and we received £35,000 and paid RedWeb £5,000.

Defense Contractor. On October 4, 2013, we, as seller, entered into a master option agreement with one of the four largest American defense contractors, as buyer (“Buyer”), and committed to supply one (1) unique SigNature DNA provenance mark for Buyer and SigNature DNA ink for marking up to 25,000

TABLE OF CONTENTS

electronic components/year, upon Buyer's request through the issuance of a purchase order. For the Buyer, the agreement is an enterprise-wide option to purchase. The term of the agreement commenced on October 3, 2013 and expires October 3, 2023. Buyer has engaged a third-party marker, which third-party marker is and must remain approved by us, to provide certain services to incorporate our ink onto certain electronic components of Buyer. Either party may terminate the agreement in the event of a material breach that is uncured for 30 days. We have received from Buyer one purchase order governed by these terms in the amount of \$62,000 thus far. The agreement severely restricts publicity on behalf of both parties.

Properties

On June 14, 2013, we entered into an operating lease agreement for a larger facility for our new corporate headquarters, located at the Long Island High Technology Incubator ("LIHTI"), which is located on the campus of Stony Brook University at 50 Health Sciences Drive, Stony Brook, NY 11790. The lease is for a 30,000 square foot building. The term of the lease commenced on June 15, 2013 and expires on May 31, 2016, with the option to extend the lease for two additional three-year periods. We also have operating leases for a laboratory in Huddersfield, England, which is currently inactive and Calverton, New York. The leases for both of these spaces are currently month to month.

Competition

The principal markets for our offerings are intensely competitive. We compete with many existing suppliers and new competitors continue to enter the market. Many of our competitors, both in the United States and elsewhere, are major pharmaceutical, chemical and biotechnology companies, or have strategic alliances with such companies, and many of them have substantially greater capital resources, marketing experience, research and development staff, and facilities than we do. Any of these companies could succeed in developing products that are more effective than the products that we have or may develop and may be more successful than us in producing and marketing their existing products. Some of our competitors that operate in the anti-counterfeiting and fraud prevention markets include: American Bank Note Holographics, Inc., Applied Optical Technologies, Authentix, Brandwatch, ChromoLogic LLC, Collectors Universe Inc., Collotype, Data Dot Technology, De La Rue Plc., Digimarc Corp., DNA Technologies, Inc., ID Global, Informium AG, Inksure Technologies, L-1 Identity Solutions, Media Sec Technologies, Nanotech Security Corp, Nokomis, Inc. opSec Security Group plc., SelectaDNA, SmartWater Technology, Inc., Sun Chemical Corp, Tracetag, ProofTag SAS and Yottamark.

Some examples of competing security products include:

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- fingerprint scanner (a system that scans fingerprints before granting access to secure information or facilities);
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- voice recognition software (software that authenticates users based on individual vocal patterns);
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- cornea scanner (a scanner that scans the iris of a user's eye to compare with data in a computer database);
-
- face scanner (a scanning system that uses complex algorithms to distinguish one face from another);
-
- integrated circuit chip and magnetic strips (integrated circuit chips that receive and, if authentic, send a correct electric signal back to the reader, and magnetic strips that contain information, both of which are common components of debit and credit cards);

- - optically variable microstructures (these include holograms, which display images in three dimensions and are generally difficult to reproduce using advanced color photocopiers and printing techniques, along with other devices with similar features);
- - elemental taggants and fluorescence (elemental taggants are various unique substances that can be used to mark products and other items, are revealed by techniques such as x-ray fluorescence); and
- - radioactivity and rare molecules (radioactive substances or rare molecules which are uncommon and readily detected).

TABLE OF CONTENTS

We expect competition with our products and services to continue and intensify in the future. We believe competition in our principal markets is primarily driven by:

- - product performance, features and liability;
- - price;
- - timing of product introductions;
- - ability to develop, maintain and protect proprietary products and technologies;
- - sales and distribution capabilities;
- - technical support and service;
- - brand loyalty;
- - applications support; and
- - breadth of product line.

If a competitor develops superior technology or cost-effective alternatives to our products, our business, financial condition and results of operations could be significantly harmed.

Proprietary Rights

We believe that our 23 patents, 43 patent applications, 27 registered trademarks, and 2 trademark applications, and our trade secrets, copyrights and other intellectual property rights are important assets for us. Our patents will expire at various times between 2021 and 2025. The duration of our trademark registrations varies from country to country. However, trademarks are generally valid and may be renewed indefinitely as long as they are in use and/or their registrations are properly maintained.

However, there are events that are outside of our control that pose a threat to our intellectual property rights as well as to our products and services. For example, effective intellectual property protection may not be available in every country in which our products and services are distributed. The efforts we have taken to protect our proprietary rights may not be sufficient or effective. Any significant impairment of our intellectual property rights could harm our

business or our ability to compete. Protecting our intellectual property rights is costly and time consuming. Any increase in the unauthorized use of our intellectual property could make it more expensive to do business and harm our operating results. Although we seek to obtain patent protection for our innovations, it is possible we may not be able to protect some of these innovations. Given the costs of obtaining patent protection, we may choose not to protect certain innovations that later turn out to be important. There is always the possibility that the scope of the protection gained from one of our issued patents will be insufficient or deemed invalid or unenforceable. We also seek to maintain certain intellectual property as trade secrets. This secrecy could be compromised by third parties, or intentionally or accidentally by our employees, which would cause us to lose the competitive advantage resulting from these trade secrets.

Additionally, litigation regarding patents and other intellectual property rights is extensive in the biotechnology industry. In the event of an intellectual property dispute, we may be forced to litigate. This litigation could involve proceedings instituted by the U.S. Patent and Trademark Office or the International Trade Commission, as well as proceedings brought directly by affected third parties. Intellectual property litigation can be extremely expensive, and these expenses, as well as the consequences should we not prevail, could seriously harm our business. If a third party claims an intellectual property right to technology we use, we might need to discontinue an important product or product line, alter our products and processes, pay license fees or cease our affected business activities. Although we might under these circumstances attempt to obtain a license to this intellectual property, we may not be able to do so on favorable terms, or at all.

Employees

We currently have 51 full-time employees and eight part-time employees, including six in management, nine in research and development, one in life sciences, four in forensics, seven in quality assurance, five in finance and accounting, eight in operations, 11 in sales and marketing, one in human resources, two

55

TABLE OF CONTENTS

administrative, two in information services and three in investor relations and communications. We expect to increase our staffing dedicated to sales, manufacturing and production, and forensic authentication services. Expenses related to travel, marketing, salaries, and general overhead will be increased as necessary to support our growth in revenue. In order for us to attract and retain quality personnel, we anticipate we will have to offer competitive salaries and benefits to future employees. We anticipate that it may become desirable to add additional full and or part time employees to discharge certain critical functions during the next 12 months. This projected increase in personnel is dependent upon our ability to generate revenues and obtain sources of financing. There is no guarantee that we will be successful in raising the funds required or generating revenues sufficient to fund the projected increase in the number of employees. As we continue to expand, we will incur additional costs for personnel. Since June 2012 we have been working with Insperity Inc. to help us manage many of our back-end administrative human resources and payroll responsibilities.

Legal Proceedings

From time to time, we may become involved in various lawsuits and legal proceedings which arise in the ordinary course of business. However, litigation is subject to inherent uncertainties, and an adverse result in these or other matters may arise from time to time that may harm our business. We are currently not aware of any such legal proceedings that we believe will have, individually or in the aggregate, a material adverse effect on our business, financial condition or operating results.

SmartWater, Ltd. v. Applied DNA Sciences, Inc. (Civil Action No. 12-05731-JS-AKT, Eastern District of New York) On August 24, 2012, SmartWater Limited (“SmartWater”) filed a complaint for patent infringement against us in the United States District Court for the Southern District of Florida. It alleged that we infringed two of SmartWater’s patents. Upon our motion, the case was transferred to the United States District Court for the Eastern District of New York. On June 26, 2013, SmartWater moved for leave to file an amended complaint. By memorandum and order dated September 27, 2013, the Court held that SmartWater had adequately stated claims for direct infringement, but dismissed the claims for contributory infringement with respect to both patents and induced infringement with respect to one patent.

On June 11, 2014, SmartWater filed a motion for an order dismissing its remaining patent infringement claims against us with prejudice. On July 18, 2014, we filed a request for an award of attorneys’ fees. On September 29, 2014, the Court dismissed SmartWater’s claims with prejudice and denied our request for attorneys’ fees. As part of the dismissal, the Court ordered that SmartWater is permanently barred from suing us or any other entity with respect to the patents at issue as they relate to our products or services. SmartWater recovered nothing from us as a result of its suit.

TABLE OF CONTENTS**MANAGEMENT****DIRECTORS AND EXECUTIVE OFFICERS**

The following is a list of our directors and executive officers and significant employees.

Name	Age	Title	Board of Directors
James A. Hayward	61	Chief Executive Officer, President, and Chairman of the Board	Director
John Bitzer, III	54		Director
Charles Ryan	51		Director
Yacov Shamash	65		Director
Sanford R. Simon	72		Director
Karol Gray	61	Chief Financial Officer	
Judith Murrah	56	Chief Information Officer	
Ming-Hwa Benjamin Liang	51	Secretary and Strategic Technology Development Officer	

Directors are elected to serve until the next annual meeting of stockholders and until their successors are elected and qualified. There are no family relationships between any director, executive officer, or person nominated or chosen by the registrant to become a director or executive officer.

Chief Executive Officer, President, and Chairman of the Board — James A. Hayward

Dr. James A. Hayward has been our Chief Executive Officer since March 17, 2006 and our President and the Chairman of the Board of Directors since June 12, 2007. He was previously our acting Chief Executive Officer since October 5, 2005. He also served as Acting Chief Financial Officer from August 20, 2013 through October 13, 2013. Dr. Hayward received his Ph.D. in Molecular Biology from the State University of New York at Stony Brook in 1983 and an honorary Doctor of Science from the same institution in 2000. His experience with public companies began with the co-founding of one of England's first biotechnology companies — Biocompatibles. Following this, Dr. Hayward was Head of Product Development for the Estee Lauder companies for five years. In 1990 he founded The Collaborative Group, a provider of products and services to the biotechnology, pharmaceutical and consumer-product industries based in Stony Brook, where he served as Chairman, President and Chief Executive Officer for 14 years. During this period, The Collaborative Group created several businesses, including The Collaborative BioAlliance, a contract developer and manufacturer of human gene products, that was sold to Dow Chemical in 2002, and Collaborative Labs, a service provider and manufacturer of ingredients for skincare and dermatology that was sold to Engelhard (now BASF) in 2004.

Our Board believes that Dr. Hayward's current role as our Chief Executive Officer, the capital investments he has made to the Company throughout his tenure with us and his former senior executive positions in our industry make him an important contributor to our Board. Dr. Hayward also serves on the Board of Directors for the LI Angel Network, Regents Council, Softheon Corporation and Ward Melville Heritage Organization.

Director — John Bitzer, III

John Bitzer, III, joined the Board of Directors on August 10, 2011. Mr. Bitzer is President and Chief Executive Officer of ABARTA, Inc., a private, third-generation family holding-company with operations in the soft drink beverages, newspaper publishing, oil and gas exploration and development, and ethnic and frozen food industries ("ABARTA"). In 1985, Mr. Bitzer began his career in sales for the Cleveland Coca-Cola Bottling Company. He has been Publisher of Atlantic City Magazine in Atlantic City, N.J. In 1994 he founded the ABARTA Media Group and held the position of Group Publisher. In 1997 he was named President and Chief Operating Officer of ABARTA and has been President and Chief Executive Officer since 1999. Mr. Bitzer has a degree from the University of Southern California and an MBA from the University of Michigan.

TABLE OF CONTENTS

Our Board believes that Mr. Bitzer's professional and management experience in investing in and building growing enterprises make him an important contributor to the Board.

Director — Charles Ryan

Dr. Charles Ryan joined the Board of Directors on August 2011. Dr. Ryan is the Sr. Vice President, and Chief Intellectual Property Counsel at Forest Laboratories ("Forest"), where he has been employed since 2003. Forest, a wholly-owned subsidiary of Actavis, with a market capitalization of nearly \$10 billion, develops and markets pharmaceutical products in a variety of therapeutic categories including central nervous system, cardiovascular, anti-infective, respiratory, gastrointestinal, and pain management medicine. Dr. Ryan has over 18 years experience in managing all aspects of intellectual property litigation, conducting due diligence investigations and prosecuting patent and trademark applications in the pharmaceutical and biotechnology industries. Dr. Ryan earned a doctorate in oral biology and pathology from Stony Brook University and a law degree from Western New England University.

Our Board believes that Mr. Ryan's expertise as chief intellectual property counsel at a global company make him an important contributor to the Board.

Director — Yacov Shamash

Dr. Yacov Shamash has been a member of the Board of Directors since March 17, 2006. Dr. Shamash is Vice President of Economic Development at the State University of New York at Stony Brook. Since 1992, he has been the Dean of Engineering and Applied Sciences and the Harriman School for Management and Policy at the University, and Founder of the New York State Center for Excellence in Wireless Technologies at the University. Dr. Shamash developed and directed the NSF Industry/University Cooperative Research Center for the Design of Analog/Digital Integrated Circuits from 1989 to 1992 and also served as Chairman of the Electrical and Computer Engineering Department at Washington State University from 1985 until 1992. Dr. Shamash also serves on the Board of Directors of Keytronic Corp.

As Vice President of Economic Development at the State University of New York at Stony Brook, Dr. Shamash daily encounters leaders of businesses large and small, regional and global in their reach and, as a member of our Board, has played an integral role in our business development by providing the highest-level introductions to customers, channels to market and to the media. Dr. Shamash also brings to our Board his valuable experience gained from serving as a director at other private and public companies.

Our Board believes that Dr. Shamash's professional and management experience, service on other companies' boards and education make him an important contributor to our Board.

Director — Sanford R. Simon

Dr. Sanford R. Simon has been a member of the Board of Directors since March 17, 2006. Dr. Simon has been a Professor of Biochemistry, Cell Biology and Pathology at Stony Brook since 1997. He joined the faculty at Stony Brook as an Assistant Professor in 1969 and was promoted to Associate Professor with tenure in 1975. Dr. Simon was a member of the Board of Directors of The Collaborative Group from 1995 to 2004. From 1967 to 1969 Dr. Simon was a Guest Investigator at Rockefeller University. Dr. Simon received a B.A. in Zoology and Chemistry from Columbia University in 1963, a Ph.D. in Biochemistry from Rockefeller University in 1967, and studied as a postdoctoral fellow with Nobel Prize winner Max Perutz in Cambridge, England. He maintains an active research laboratory studying aspects of cell invasion in cancer and inflammation and novel strategies of drug delivery; he also teaches undergraduate, graduate, medical, and dental students.

Dr. Simon is an expert at the use of large biomolecules in commercial media, and we have made use of his expertise in formulating DNA into commercial carriers for specific customers. As a member of our Board, Dr. Simon has advised us on patents, provided technical advice, and introduced us to corporate partners and customers.

Our Board believes that Dr. Simon's professional experience, expertise, and education make him an important contributor to our Board.

TABLE OF CONTENTS

Chief Financial Officer — Karol Gray

Ms. Gray has been our Chief Financial Officer since October 14, 2013. Previously she served on our Board of Directors from August 10, 2011 through August 20, 2013, and was chair of the Audit Committee and a member of the Compensation Committee.

Over the last two years, she held the position of Vice Chancellor of Finance and Administration at UNC Chapel Hill. In addition she was the Executive Vice President/Treasurer of the Chapel Hill Foundation Real Estate Holdings, Inc., Treasurer of The University of North Carolina at Chapel Hill Investment Fund, Inc. (CHIF), Treasurer of The University of North Carolina at Chapel Hill Foundation, Inc., and Secretary/Treasurer of UNC Management Company, and a board member of the UNC Health Care System.

Prior to her position at UNC Chapel Hill, Ms. Gray was Vice President for Finance & Administration and the Chief Financial Officer at Stony Brook University. She was active on several committees, including the Brookhaven National Laboratory Audit Committee, the Presidential Budget Working Group, and the Investment Subcommittee of the Research Foundation of the State University of New York, and a member of the Executive Committee of the State University of New York Business and Officers Association.

Ms. Gray is a graduate of Hofstra University. Ms. Gray has 35 years of financial, organizational and management experience.

Chief Information Officer — Judith Murrah

Ms. Judith Murrah has been our Chief Information Officer since June 1, 2013. Ms. Murrah is responsible for information technology strategy and implementation. Ms. Murrah joined us from Motorola Solutions, which had acquired her former firm, Symbol Technologies. She was Senior Director of Information Technology, overseeing global IT program management office, financial and supplier operations and quality assurance. At Symbol, Ms. Murrah held leadership positions in product line management, global account sales, corporate and marketing communications and IT. Ms. Murrah holds a Master of Business Administration (MBA) from Harvard Business School, and a Bachelor of Science (BS) in Industrial Engineering from the University of Rhode Island. She is an author on eleven U.S. patents and one additional pending. Ms. Murrah is co-founder and President of non-profit ConnectToTech, a recognized leader in engaging students in science, technology, engineering and math disciplines. Ms. Murrah was named to 2005 and 2006 Top 50 Women of Long Island and received the inaugural 2001 Diamond Award for Long Island Women Leaders in Technology.

Secretary and Strategic Technology Development Officer — Ming-Hwa Benjamin Liang

Ming-Hwa Benjamin Liang has been our Secretary and Strategic Technology Development Officer since October 2005. Between May 1999 and September 2005, Mr. Liang had been the director of research and development at Biowell Technology Inc. Mr. Liang received a B.S. in Bio-Agriculture from Colorado State University in 1989, a M.S. in Horticulture from the University of Missouri at Columbia in 1991, his Ph.D. in Plant Science from the University of Missouri at Columbia in 1997 and his LL.M. in Intellectual Property Law from Shih Hsin University, Taiwan in 2004.

Board of Directors Structure and Committee Composition

In June 2008, our Board of Directors established a standing compensation committee and in September 2011, our Board of Directors established an audit committee and a nominating committee. Each of the committees operates under a written charter adopted by the Board of Directors. All of the committee charters are available on our web site at [http:// www.adnas.com/ investors](http://www.adnas.com/investors) or by writing to Applied DNA Sciences, Inc., 50 Health Sciences Drive, Stony Brook, New York 11790, c/ o Investor Relations.

TABLE OF CONTENTS

employees and non-employee directors to promote and advance the interests and strategic goals of the Company. As requested by the compensation committee, the Chief Executive Officer will provide information and may participate in discussion regarding compensation for other executive officers. The compensation committee does not utilize outside compensation consultants but considers other general industry information and trends if available.

Nominating Committee

Messrs. Shamash (Chairperson), Bitzer and Simon currently serve on the nominating committee. The Board of Directors has determined that each member of the nominating committee is independent within the meaning of the director independence standards of the company, NASDAQ and the SEC.

The nominating committee is responsible for, among other things: reviewing Board composition, procedures and committees, and making recommendations on these matters to the Board of Directors; reviewing, soliciting and making recommendations to the Board of Directors and stockholders with respect to candidates for election to the Board.

Compensation Committee Interlocks and Insider Participation

None of the prospective members of our compensation committee is or has been an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the compensation committee or director (or other board committee performing equivalent functions or, in the absence of any such committee, the entire Board of Directors) of any entity that has one or more executive officers who will serve on our compensation committee or our Board of Directors.

Code of Ethics

Our Board of Directors adopted a “code of ethics” as defined by regulations promulgated under the Securities Act and the Exchange Act that applies to all of our employees, officers and directors, including those officers responsible for financial reporting. The code of ethics is designed to codify the ethical standards that we believe are reasonably designed to deter wrong-doing.

We have established procedures to ensure that suspected violations of the code may be reported anonymously. A current copy of our code of ethics is available on our website at [http:// www.adnas.com/ investors](http://www.adnas.com/investors). A copy may also be obtained, free of charge, from us upon a request directed to Applied DNA Sciences, Inc., 50 Health Sciences Drive, Stony Brook, New York 11790, c/ o Investor Relations. We intend to disclose any amendments to or waivers of a provision of the code of ethics granted to directors and officers by posting such information on our website available at www.adnas.com and/ or in our public filings with the SEC.

TABLE OF CONTENTS

EXECUTIVE COMPENSATION

Compensation Discussion & Analysis

Our compensation approach is necessarily tied to our stage of development as a company. We are principally devoted to developing DNA embedded biotechnology security solutions and to date, have had a limited operating history. As a company with a limited operating history, we have necessarily limited the establishment of extensive administrative and operating infrastructure, and a formal executive compensation policy has not been established. We have a compensation committee of the Board of Directors that is responsible for all compensation matters of our Chief Executive Officer. Historically, the compensation of all our other named executive officers was approved by our Board of Directors upon the recommendation of our compensation committee, which in turn relied upon the recommendation of our Chief Executive Officer. As discussed below, the recommendation of our Chief Executive Officer was largely discretionary, based on his subjective assessment of the particular executive. As we continue to grow, we expect that the specific direction, emphasis and components of our executive compensation program will continue to evolve. The compensation committee has overall responsibility for approving and evaluating our executive officers' compensation plans, policies and programs. Our compensation program is designed to employ best practices in executive compensation and consider all relevant regulatory guidance regarding sound incentive compensation policies. The remainder of this section provides a general summary of our compensation policies and procedures.

Our Executive Compensation Philosophy and Objectives

General

The fundamental purpose of our executive compensation program is to assist us in achieving our financial and operating performance objectives. Specifically, we attempt to tailor an executive's compensation to (1) retain and motivate the executive, (2) reward him or her upon the achievement of company-wide, and individual performance, and (3) align the executive's interest with the creation of long-term stockholder value, without encouraging excessive risk taking. To that end, and within the context of the stage of our company, we have compensated our named executive officers through a mix of base salary, equity-based incentives, and cash bonuses.

Our business model is based on our ability to establish long-term relationships with clients and to maintain our strong mission, client focus, entrepreneurial spirit and team orientation. We have sought to create an executive compensation package that balances short-term versus long-term components when considering cash bonuses and employee options, in ways we believe are most appropriate to motivate senior management and reward them for achieving the following goals:

-
- Develop a culture that embodies a commitment for our business, creative contribution and a drive to achieve established goals and performance objectives;
-
- Provide leadership to the organization in such a way as to maximize the results of our business operations;
-
- Lead us by demonstrating forward thinking in the operation, development and expansion of our business;
-
- Effectively manage organizational resources to derive the greatest value possible from each dollar invested; and
-
- Take strategic advantage of the market opportunity to expand and grow our business and revenues.

We believe that having a compensation program designed to align executive officers to meet our business objectives and to reinforce excellent performance and accountability is the cornerstone to successfully implement and achieve our strategic plan. In determining the compensation of our executive officers, we are guided by the following key principles:

- - Competition. Compensation should reflect the competitive marketplace, so we can retain, attract and motivate talented executives.

TABLE OF CONTENTS

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- **Accountability for Business Performance.** Compensation should be tied to financial performance, so that executives are held accountable through their compensation for contributions to the performance of our company as a whole as well as their performance of the business unit for which they are responsible.
-
- **Accountability for Individual Performance.** Compensation should be tied to the individual's performance to encourage and reflect individual contributions to our company's performance. We consider individual performance as well as performance of the businesses and responsibility areas that an individual oversees, and weigh these factors as appropriate in assessing a particular individual's performance.
-
- **Alignment with Stockholder Interests.** Compensation should be tied to our financial performance through equity awards to align executives' interests with those of our stockholders.

Our executive compensation structure not only aims to be competitive in our industry, but also to be fair relative to compensation paid to other professionals within our organization, relative to our short-term and long-term performance and relative to the value we deliver to our stockholders. We seek to maintain a performance-oriented culture and a compensation approach that rewards our executive officers when we achieve our goals and objectives, while putting at risk an appropriate portion of their compensation against the possibility that our goals and objectives may not be achieved.

The Chief Executive Officer is the only named executive officer with an employment agreement. In addition, there is no change in control, severance or noncompetition agreements with any named executive officer, nor are we otherwise obligated to pay any named executive officers any amounts if there is a change in control of the Company or if such executive's employment with us terminates, except for the Chief Executive Officer.

Determination of Executive Compensation Awards

The compensation committee establishes and monitors the basic philosophy governing the compensation of the Chief Executive Officer. On an annual basis, the compensation committee reviews and makes recommendations to the Board with respect to the compensation of the Chief Executive Officer including incentive compensation plans and equity-based plans. Historically, compensation decisions for all other of our executive officers were approved by our Board of Directors upon the recommendation of our compensation committee, which in turn relied upon the recommendation of our Chief Executive Officer. We have traditionally placed significant emphasis on the recommendation of our Chief Executive Officer with respect to the determination of executive compensation (other than his own), in particular with respect to the determination of base salary, cash incentive and equity incentive awards, and typically followed such recommendations as presented by our Chief Executive Officer. As we continue to grow, we will make the transition to have our compensation committee be solely responsible for administering our executive compensation program, although we expect to continue to rely, in part, upon the advice and recommendations of our Chief Executive Officer, particularly with respect to those executive officers that report directly to him. The compensation committee's composition and oversight of our executive compensation program is described in more detail below in the section entitled "Compensation Committee."

For purposes of determining our executive officer compensation in fiscal 2014 and in prior fiscal years, we considered the following factors: our understanding of the amount of compensation generally paid by similarly situated companies to their executives with similar roles and responsibilities; the roles and responsibilities of our executives; the individual experience and skills of, and expected contributions from, our executives; the amounts of compensation being paid to our other executives; our executives' historical compensation at our company; an assessment of the professional effectiveness and capabilities of the executive officer; and the performance of the executive officer against the corporate and other scorecards used to determine incentive compensation. While we have not used any

formula to determine compensation based on these factors, we have placed the most emphasis in determining compensation on our understanding of the amount of compensation generally paid by similarly situated companies to their executives with similar roles and responsibilities and the subjective assessment of the professional

63

TABLE OF CONTENTS

effectiveness and capabilities of the executive officer. Our understanding of the amount of compensation generally paid by similarly situated companies was based on our compensation committee's and our Chief Executive Officer's own business judgment and collective experience in such matters.

Base Salary

Our Board of Directors sets the Chief Executive Officer's base salary annually, based on the recommendation of the compensation committee. The base salary for each of the other named executive officers is reviewed annually by the Chief Executive Officer and any adjustments are communicated and approved by the Compensation Committee.

Adjustments to base salary are based upon a review of a variety of factors, including the following:

-
- individual and Company performance, measured against quantitative and qualitative goals, such as our growth, revenue, profitability and other matters;
-
- duties and responsibilities as well as the executive's experience; and
-
- the types and amount of each element of compensation to be paid to the named executive officer.

Cash bonuses

The Chief Executive Officer is paid cash bonuses based on the discretion of the Compensation Committee and approval by the Board of Directors. We pay discretionary cash bonuses to our other named executive officers, which are recommended by the Chief Executive Officer. The cash bonuses, if any, are determined after the end of each fiscal year and may be paid annually, are intended to recognize and reward those named executive officers who have contributed meaningfully to our performance for the prior year. Both personal and the Company's performance are factors that the Board and Chief Executive Officer typically consider in deciding whether to award a cash bonus to a named executive officer and the amount of such bonus.

Long-term Stock-Based Compensation

Our long-term compensation program has historically consisted solely of stock options. Option grants made to executive officers are designed to provide them with incentive to execute their responsibilities in such a way as to generate long-term benefit to us and our stockholders. Through possession of stock options, our executives participate in the long-term results of their efforts, whether by appreciation of our Company's value or the impact of business setbacks, either company-specific or industry-based. Additionally, stock options provide a means of ensuring the retention of our executive officers, in that they are in almost all cases subject to vesting over an extended period of time.

Stock options provide executives with a significant and long-term interest in our success. By only rewarding the creation of stockholder value, we believe stock options provide our executive officers with an effective risk and reward profile. Although it is our current practice to use stock options as our sole form of long-term incentive compensation, the compensation committee reviews this practice on an annual basis in light of our overall business strategy, existing market-competitive best practices and other factors.

Stock options are granted periodically and are subject to vesting based on the executive's continued employment. Historically we have granted our executive officers a combination of incentive stock options that vest over a period of time or stock options that are immediately exercisable. Most options vest evenly over four years, beginning on the date of the grant.

Stock options are granted to our executive officers in amounts determined by the Compensation Committee in its discretion. Stock grants have not been formula-based, but instead have historically been granted taking into account a mixture of the following qualitative factors: the executive's level of responsibility; the competitive market for the executive's position; the executive's potential contribution to our growth; and the subjective assessment of the

professional effectiveness and capabilities of these executives.

64

TABLE OF CONTENTS

Benefits

We provide the following benefits to our executive officers on the same basis as the benefits provided to all employees:

-
- health and dental insurance;
-
- life insurance;
-
- short-and long-term disability; and
-
- 401(k) Plan (currently there is no employer matching)

These benefits are consistent with those offered by other companies and specifically with those companies with which we compete for employees.

Summary Compensation Table

The following table sets forth the compensation of our principal executive officer, our principal financial officer and our other executive officers for the fiscal years ended September 30, 2014, 2013 and 2012. We refer to these executive officers as our “named executive officers.”

Year	Salary (\$ (c))	Bonus (\$ (d))	Stock Awards (\$ (e))	Option Awards (\$ (f) (1))	Non-Equity Incentive Plan Compensation (\$ (g))	Change in Pension Value and All Other Compensation (\$ (i))	Nonqualified Deferred Compensation Earnings (\$ (h))	Total (\$ (j))
James A. Hayward Chairman, President and CEO	2014	343,269	—	—	3,530,437	—	—	3,873,706
	2013	319,974	150,000	—	—	—	—	469,974
	2012	242,334	—	—	—	—	—	242,334
Karol K. Gray CFO	2014	310,962	—	—	207,043	—	—	518,005
	2013	—	—	—	—	—	—	—
	2012	—	—	—	—	—	—	—
Judith Murrh CIO (3)	2014	250,000	—	—	195,691	—	—	445,691
	2013	81,731	—	—	—	—	—	81,731
	2012	—	—	—	—	—	—	—
Ming-Hwa Liang	2014	140,000	2,000	—	211,826	—	—	353,826
	2013	140,000	10,000	—	—	—	—	150,000

Year	Salary (\$ (c))	Bonus (\$ (d))	Stock Awards (\$ (e))	Option Awards (\$ (f) (1))	Non-Equity Incentive Plan Compensation (\$ (g))	Change in Pension Value and Nonqualified Deferred Compensation Earnings (\$ (h))	All Other Compensation (\$ (i))	Total (\$ (j))
CTO and Secretary	2012	140,000	—	—	—	—	—	140,000

(1)

- The amounts in column (f) represent the grant date fair value under ASC 718 based on the Black Scholes value of the options on the grant date.

(2)

- Ms. Gray was appointed as Chief Financial Officer effective October 14, 2013.

(3)

- Ms. Judith Murrah has been our Chief Information Officer since June 1, 2013. Ms. Murrah's annual salary is \$250,000 and she received 33,333 options upon completing six months of employment in December 2013.

TABLE OF CONTENTS

Grants of Plan-Based Awards

The following table provides information regarding grants of plan-based awards to our named executive officers during the year ended September 30, 2014:

Name	Grant Date	All Other Stock Awards: Number of Shares of Stock or Units (1) (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Stock and Option Awards (3) (\$)
James A. Hayward	10/17/2013 (1)	—	833,334	\$ 5.82	3,530,437
Karol K. Gray	12/10/2013 (2)	—	8,334	\$ 8.16	49,640
Judith Murrah	4/14/2014 (1)	—	33,334	\$ 6.60	157,403
Ming-Hwa Liang	12/02/2013 (1)	—	33,334	\$ 7.02	170,871
	12/10/2013 (2)	—	4,167	\$ 8.16	24,820
	10/17/2013 (1)	—	50,000	\$ 5.82	211,826

(1)

- Options are exercisable for five years with vesting at 25% each anniversary over four years from the date of grant.

(2)

- Options are exercisable for five years and vested immediately.

(3)

- These amounts represent the grant date fair value under ASC 718 based on the Black Scholes value of the options on the grant date.

Outstanding Equity Awards at Fiscal Year-End

The following table shows information concerning outstanding equity awards as of September 30, 2014 held by the Named Executive Officers.

Name	Option Awards			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date
	283,334 (1)	—	\$ 3.00	5/27/2015

Option Awards					
James A.	166,667	(2)	—	3.60	7/1/2015
Hayward	666,667	(3)	—	3.51	7/11/2018
	—	(4)	833,334	5.82	10/16/2018
	15,900	(8)	—	4.08	11/29/2016
Karol K.	6,175	(8)	—	10.79	11/29/2017
Gray	11,112	(8)	—	5.82	10/16/2018
	8,334	(5)	—	8.16	12/09/2018
	—	(6)	33,334	6.60	04/13/2019
Judith	—	(7)	33,334	7.02	12/01/2018
Murrah	4,167	(5)	—	8.16	12/09/2018
	116,667	(1)	—	3.00	5/27/2015
Ming-Hwa	166,667	(2)	—	3.60	7/1/2015
Liang	—	(4)	50,000	5.82	10/16/2018

(1)

- On May 27, 2010, our named executive officers elected to forfeit certain stock options to purchase up to 483,333 shares of our common stock at an exercise price of \$6.60 that were previously granted to

66

TABLE OF CONTENTS

them under the 2005 Incentive Stock Plan. In lieu of the forfeited options, our Board of Directors granted new stock options to such named executive officers to purchase up to 483,333 shares of our common stock at an exercise price of \$3.00 under the 2005 Stock Incentive Plan which are fully vested and became exercisable on June 29, 2010 following approval by our stockholders to amend our certificate of incorporation to increase our authorized shares of common stock.

(2)

- On July 1, 2010, our Board of Directors granted nonstatutory stock options under the 2005 Incentive Stock Plan to each of our named executive officers. The options granted to the named executive officers vested with respect to 25% of the underlying shares on the date of grant, and the remaining will vest ratably each anniversary thereafter until fully vested on the third anniversary of the date of grant.

(3)

- On July 11, 2011, our Board of Directors granted nonstatutory stock options under the 2005 Incentive Stock Plan to Dr. James A. Hayward, our Chairman, President and Chief Executive Officer. The options granted to Dr. Hayward vested 25% on the grant date and shall vest 37.5% on each of the next two anniversaries of the grant date, subject to Dr. Hayward's continuous employment through the applicable vesting date, and if our revenues for any fiscal quarter beginning after the date hereof are at least \$1 million more than our revenues for the immediately preceding fiscal quarter, then vesting of the next 37.5% installment will accelerate (such that, if the \$1 million increase is met in at least two quarters before the second anniversary of the option grant date, all of the options will have become fully vested as of the end of the second quarter for which the \$1 million increase is met).

(4)

- On October 17, 2013, the Company granted Dr. James A. Hayward, and Dr. Ming-Hwa Liang options to purchase 833,334 and 50,000 shares of our Common Stock, respectively, at an exercise price of \$5.82 per share for five years with vesting at 25% each anniversary for the next four years.

(5)

- On December 10, 2013, the Company granted an aggregate of 35,433 options to purchase the Company's Common Stock at an exercise price of \$8.16 per share for five years to employees, with immediate vesting. As part of this grant, Ms. Gray and Ms. Murrah were granted 8,334 and 4,167 options, respectively.

(6)

- On April 14, 2014, we granted 33,334 options to purchase the Company's Common Stock at an exercise price of 6.60 per share for five years to Ms. Gray with vesting at 25% each anniversary for the next four years.

(7)

- On December 2, 2013, we granted 33,334 options to purchase the Company's Common Stock at an exercise price of \$7.02 per share for five years to Ms. Murrah with vesting at 25% each anniversary for the next four years.

(8)

- These options were granted to Ms. Gray for her service on the Board of Directors prior to her appointment as the Chief Financial Officer.

Option Exercises and Stock Vested

During fiscal 2014, none of our named executive officers exercised options or acquired shares upon vesting of stock awards.

Pension Benefits

None of our named executive officers participates in or has account balances in qualified or non-qualified defined benefit plans sponsored by us.

Nonqualified Contribution Plans

None of our named executive officers participates in or has account balances in non-qualified defined contribution plans maintained by us.

Deferred Compensation

None of our named executive officers participates in or has account balances in deferred compensation plans or arrangements.

67

TABLE OF CONTENTS

Employment Agreement with Dr. James A. Hayward

We entered into an employment agreement dated July 11, 2011, with Dr. James A. Hayward, our Chairman, President and Chief Executive Officer. The agreement provides that Dr. Hayward will be our Chief Executive Officer, and will continue to serve on our Board of Directors. The initial term of his employment was from July 1, 2011 through June 30, 2014, which automatically renews for one-year periods subject to ninety days' prior notice of non-renewal by either party. Dr. Hayward received an initial annual salary of \$225,000, subject to annual review. On November 30, 2012, our Board of Directors increased Dr. Hayward's annual salary to \$350,000. Dr. Hayward's annual salary will be increased to \$350,000 per annum after the first quarter in which our revenues exceed \$1 million for such quarter. The Board of Directors, acting in its discretion, may grant annual bonuses to Dr. Hayward. Dr. Hayward will be eligible for a special cash bonus of up to \$750,000, 40% of which will be payable if and when annual revenue reaches \$6 million and 10% of which would be payable for each \$2 million of annual revenue in excess of \$6 million. On November 30, 2012, the Board granted a cash bonus of \$150,000 to Dr. Hayward payable upon the closing of an additional financing of \$5.5 million by an investor. Dr. Hayward will be entitled to certain benefits and perquisites and will be eligible to participate in retirement, welfare and incentive plans available to our other employees.

Dr. Hayward was granted options to purchase 666,667 shares of our common stock at an exercise price per share equal to \$3.51. The options vested as follows: 25% on the grant date, and 37.5% on each of the next two anniversaries of the grant date, subject to Dr. Hayward's continuous employment. If our revenues for any fiscal quarter increased by more than \$1 million over the prior fiscal quarter, then the vesting date for the next 37.5% tranche would be accelerated. We also granted 250,000 shares of our common stock to Dr. Hayward.

The agreement with Dr. Hayward also provides that if he is terminated before the end of the initial or a renewal term by the Company without cause or if Dr. Hayward terminates his employment for good reason, then, in addition to previously earned and unpaid salary, bonus and benefits, and subject to the delivery of a general release and continuing compliance with restrictive covenants, Dr. Hayward will be entitled to receive a pro rata portion of the annual bonus he would have received if employment had continued through the end of the year of termination; salary continuation payments for two years following termination equal to the greater of (i) three times base salary or (ii) two times base salary plus bonus; Company-paid COBRA continuation coverage; continuing life insurance benefits (if any) for two years; and extended exercisability of outstanding vested options (for three years from termination date or, if earlier, the expiration of the fixed option term). If termination of employment as described above occurs within six months before or two years after a change in control of the Company, then, in addition to the above payments and benefits, all of Dr. Hayward's outstanding options and other equity incentive awards will become fully vested and Dr. Hayward will receive a lump sum payment of the amounts that would otherwise be paid as salary continuation. In general, a change in control will include a 30% or more change in ownership of the Company.

Upon termination due to death or disability, Dr. Hayward will generally be entitled to receive the same payments and benefits he would have received if his employment had been terminated by the Company without cause (as described in the preceding paragraph), other than salary continuation payments.

Effective June 21, 2014, Dr. Hayward's annual salary was voluntarily reduced by \$50,000. This salary reduction will be accrued and repaid when the Company reaches \$3,000,000 in sales for two consecutive quarters or the Company has net income at the end of any fiscal year.

Potential Payments upon Termination of Employment or a Change of Control

There is a change-in-control provision included in Dr. Hayward's employment agreement, and we are obligated to pay severance or other enhanced benefits to him upon termination of his employment. For additional information, see "Employment Agreement" above.

Director Compensation Fiscal 2014

During the fiscal year ended September 30, 2014, we did not provide any cash compensation to our non-employee directors for their service on our Board of Directors. On November 30, 2011, the Board approved the recommendation from the Compensation Committee that each of the non-employee directors

TABLE OF CONTENTS

shall annually receive, for as long as they are a member of the Board, a 5-year stock option, fully vested after one year, to purchase a number of shares of common stock having a fair value of \$60,000 as determined using the Black Scholes value, or as determined by the Compensation Committee. Additionally, the Board approved the recommendation from the Compensation Committee and Dr. James Hayward that stock options to purchase shares of our common stock having an aggregate fair value of \$40,000 using the Black Scholes value be granted to certain non-employee directors.

	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)	Option Awards (\$) (1)(2)	All Other Compensation (\$)	Total (\$) (1)(5)
Sanford R. Simon	—	—	40,000	—	40,000
Yacov Shamash (2)	—	—	53,350	—	53,350
John Bitzer, III (3)	—	—	45,000	—	45,000
Karol Gray (4)	—	—	40,000	—	40,000
Charles Ryan (3)	—	—	45,000	—	45,000

(1)

- A 5-year option to purchase 11,111 shares of our common stock was granted by the Board to each of the non-employee directors on October 17, 2013 at an exercise price of \$5.82 per share, vesting immediately.

(2)

- A 5-year option to purchase an additional 4,074 shares of our common stock at an exercise price of \$5.82 per share was granted to Mr. Shamash on October 17, 2013, vesting immediately.

(3)

- A 5-year option to purchase an additional 1,667 shares of our common stock at \$5.82 per share was granted to both Mr. Bitzer and Mr. Ryan on October 17, 2013, vesting immediately.

(4)

- Ms. Gray was awarded these options for her service on the Board through August 20, 2013. Ms. Gray resigned from the Board of Directors on August 20, 2013.

(5)

- At September 30, 2014, Mr. Simon, Mr. Shamash, Mr. Bitzer, Ms. Gray and Mr. Ryan had outstanding option awards (including warrants) aggregating 48,331, 59,753, 35,881, 42,974, and 35,881 shares of our common stock, respectively.

TABLE OF CONTENTS**SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

The following table sets forth certain information regarding the shares of our common stock beneficially owned as of November 14, 2014, (i) by each person who is known to us to beneficially own more than 5% of the outstanding common stock, (ii) by each of the executive officers named in the table under “Executive Compensation” and by each of our directors, and (iii) by all officers and directors as a group.

Unless otherwise indicated below, each person or entity has an address in care of our principal executive offices at 50 Health Sciences Drive, Stony Brook, New York 11790.

Name and Address of Beneficial Owner	Title of Class	Number of Shares Owned (1)(2)	Percentage of Class (3)
Executive Officers and Directors:			
James A. Hayward	Common Stock	2,754,133 (4)	18.2 %
Yacov Shamash	Common Stock	59,756 (5)	*
John Bitzer, III (11)	Common Stock	1,122,671 (6)(7)	8.0 %
Karol Gray	Common Stock	52,955 (6)(12) (13)	*
Judith Murrah	Common Stock	7,077 (12) (13)	*
Charles Ryan	Common Stock	35,882 (6)	*
Ben Liang	Common Stock	289,083 (8)	2.0 %
Sanford R. Simon	Common Stock	48,333 (9)	*
All directors and officers as a group (8 persons)	Common Stock	4,369,890 (10)	27.9 %
5% Stockholders:			
Delabarta, Inc. (11)	Common Stock	1,059,388	7.6 %

*

- indicates less than one percent

(1)

- Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to the shares shown. Except as indicated by footnote and subject to community property laws where applicable, to our knowledge, the stockholders named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. A person is deemed to be the beneficial owner of securities that can be acquired by such person within 60 days upon the exercise of options, warrants or convertible securities (in any case, the “Currently Exercisable Options”).

(2)

- Does not include unvested shares subject to options granted on October 17, 2013 pursuant to the 2005 Incentive Stock Plan, which vest 25% of the underlying shares ratably on each anniversary thereafter until fully vested on the fourth anniversary of the date of grant, including 833,334 to James A. Hayward and 50,000 to Ben Liang. Does not include unvested shares subject to 33,334 options granted to Judith Murrah on December 2, 2013 and 33,334 granted to Karol Gray on April 14, 2014, pursuant to the 2005 Incentive Stock Plan, which vest 25% of the underlying shares ratably on each anniversary thereafter until fully vested on the fourth anniversary of the date of grant.

(3)

- Based upon 13,935,954 shares of common stock outstanding as of November 14, 2014. Each beneficial owner's percentage ownership is determined by assuming that the Currently Exercisable Options that are held by such person (but not those held by any other person) have been exercised and converted.

(4)

- Includes 1,226,973 shares underlying currently exercisable options and warrants. Does not include 315,171 shares and warrants to purchase 315,171 shares issuable upon exchange of a note in the principal amount of \$1,000,000 plus accrued interest upon completion of this offering.

(5)

- Includes 59,756 shares underlying currently exercisable options and warrants.

70

TABLE OF CONTENTS

(6)

- Includes 49,854, 35,882 and 35,882 shares underlying currently exercisable options for Ms. Gray, Messrs. Bitzer and Ryan, respectively.

(7)

- Includes 1,052,113 shares of common stock and 7,275 warrants owned by Delabarta, Inc., a partnership administered by Mr. Bitzer for which his revocable trust is a partner. Mr. Bitzer disclaims beneficial ownership of the shares held by Delabarta, Inc. except to the extent of his pecuniary interest therein.

(8)

- Includes 284,790 shares underlying currently exercisable options and warrants.

(9)

- Includes 48,333 shares underlying currently exercisable options and warrants.

(10)

- Includes 1,747,477 shares underlying currently exercisable options and warrants.

(11)

- The address of the principal business office for the stockholder is 1000 Gamma Drive, Suite 500, Pittsburgh, PA 15238. John Bitzer, III, one of our directors is President and Chief Executive Officer of the stockholder. Mr. Bitzer disclaims beneficial ownership of the shares held by the stockholder, except to the extent of his pecuniary interest therein.

(12)

- Includes 1,456 shares underlying currently exercisable warrants for both Ms. Gray and Ms. Murrah.

(13)

- Includes 8,334, and 4,167 shares underlying currently exercisable options for Ms. Gray and Ms. Murrah, respectively.

71

TABLE OF CONTENTS

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS,
AND DIRECTOR INDEPENDENCE

James A. Hayward

Promissory Note. On September 11, 2014, we issued and sold promissory notes (the “Notes”) in the aggregate principal amount of \$1,800,000 and bearing interest at a rate of 12.5% per annum to Dr. James A. Hayward, our President, Chairman and Chief Executive Officer (in the amount of \$1,000,000) and another individual (in the amount of \$800,000) both of whom are “accredited investors” as defined in regulations promulgated under the Securities Act of 1933, as amended (the “Securities Act”).

The Notes have a ten month maturity. Interest may be payable in cash or in shares of the common stock at the option of the holders of the Notes. The Notes may be prepaid in whole or in part, at any time, subject to certain prepayment penalties. Upon an event of default, the Notes and all accrued interest thereon shall automatically convert into common stock at the closing price of the common stock on the date of issuance of the Notes. In the event of a consolidation or merger with another corporation in which we do not survive, the notes shall be paid in full.

On November 11, 2014, Dr. Hayward and the other individual agreed to exchange for cancellation their respective notes (including principal and accrued interest thereon) for 315,171 shares of common stock and warrants to purchase 315,171 shares of common stock, in the case of Dr. Hayward, and 252,137 shares of common stock and warrants to purchase 252,137 shares of common stock, in the case of the other individual, at the public offering price of this offering.

DivineRune. We acquired rights to certain software and intellectual property pursuant to an agreement we entered into with DivineRune Inc., a secure cloud-computing specialist, on January 25, 2012. DivineRune was issued a 3 year warrant to purchase 16,667 shares of our common stock at an exercise price of \$4.26 per share vesting in full on the first anniversary of the date of grant as compensation for a license to DivineRune™’s patent portfolio. We will also share revenues on any future sales of products generated as a result of this agreement. We expect that the partnership will enhance and extend our core anti-counterfeiting, anti-diversion, and security systems into the digital track-and-trace sphere. James A. Hayward, our President, Chairman and Chief Executive Officer, and Yacov Shamash, a member of our Board of Directors, were among the early investors in DivineRune.

Delabarta, Inc./John Bitzer, III

John Bitzer, III, one of our directors, is President and Chief Executive Officer of ABARTA, Inc., a private, third-generation family holding-company, which owns Delabarta, Inc. On June 21, 2012, Abarta Partners I, a partnership administered by Mr. Bitzer for which his revocable trust is a partner, purchased 592,943 shares of our common stock at a purchase price of \$2.60 per share for gross proceeds of \$1,542,600 in a private placement transaction. On June 23, 2014, Delabarta, Inc. purchased 7,275 shares of our common stock at a purchase price of \$6.87 per share for gross proceeds of \$50,000 in a private placement transaction. Delabarta, Inc. also received 7,275 warrants to purchase shares of our common stock as part of this private placement transaction.

Dr. Yacov Shamash. See discussion of DivineRune under James A. Hayward above.

Policy and Procedure for Approval of Related Person Transactions

We have a formal policy that requires all related party transactions, which includes transactions with directors, officers and holders of five percent or more of our voting securities and any member of the immediate family of and any entity affiliated with any of the foregoing persons, to be approved by our audit committee. In approving or rejecting any such proposal, our audit committee will consider the relevant facts and circumstances available and deemed relevant to the committee, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related party’s interest in the transaction.

Director Independence

Our Board of Directors currently consists of five members: James A. Hayward, Yacov Shamash, Sanford R. Simon, John Bitzer, III, and Charles Ryan. Although our securities are not currently listed on a

TABLE OF CONTENTS

national securities exchange or in an inter-dealer quotation system which has requirements that a majority of the Board of Directors be independent, the Board of Directors has determined that currently and at all times during the fiscal year ended September 30, 2013, each of our directors other than Dr. Hayward are “independent” as defined by the listing standards of the NASDAQ Stock Market, constituting a majority of independent directors of our Board of Directors as required by the rules of the NASDAQ Stock Market. The Board of Directors considers in its evaluation of independence whether any director has a relationship with us that would interfere with the exercise of independent judgment in carrying out his or her responsibilities of a director.

73

TABLE OF CONTENTS

DESCRIPTION OF SECURITIES

On October 24, 2014, we filed a Third Certificate of Amendment of Certificate of Incorporation with the Secretary of State of the State of Delaware that effected a one-for-60 (1:60) reverse stock split and a decrease in our authorized common stock, par value \$0.001 per share, from 1,350,000,000 to 500,000,000 shares, effective October 29, 2014. Our authorized capital stock consists of 500,000,000 shares of common stock, of which 13,935,954 shares were issued and outstanding as of November 10, 2014, and 10,000,000 shares of preferred stock, par value \$0.001 per share, none of which were issued and outstanding as of the same date.

COMMON STOCK

The holders of common stock are entitled to one vote for each share held of record on all matters to be voted on by the stockholders. The holders of common stock are entitled to receive dividends ratably when, as and if declared by the board of directors out of funds legally available therefore. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share equally and ratably in all assets remaining available for distribution after payment of liabilities and after provision is made for each class of stock, if any, having preference over the common stock. Holders of common stock have no preemptive, subscription, redemption, sinking fund, or conversion rights. The outstanding shares of common stock are validly issued, fully paid and non-assessable.

PREFERRED STOCK

Under our Certificate of Incorporation, the Board of Directors is authorized, subject to any limitations prescribed by the laws of the State of Delaware, but without any further action by our stockholders, to provide for the issuance of up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in such series, to fix the designations, powers, preferences and rights of the shares of each such series and any qualifications, limitations or restrictions thereof, and to increase or decrease the number of shares of any such series (but not below the number of shares of such series then outstanding) without any further vote or action by the stockholders. The board of directors may authorize and issue preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock. Please see “Fiscal 2013 — Securities Purchase Agreements” in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for a discussion of the terms of preferred stock previously issued but no longer outstanding.

OPTIONS

There are currently options outstanding that have been issued to our officers, directors and employees to purchase 2,909,006 shares of our common stock pursuant to our 2005 Incentive Stock Plan.

WARRANTS

There are currently warrants outstanding that have been issued to nonemployees or with financing transactions to purchase 945,150 shares of our common stock. These warrants have expiration dates between January 24, 2015 and July 18, 2018 with exercise prices ranging from \$2.40 to \$14.40.

Certain warrants issued to an investor have cashless exercise features tied to the Black-Scholes value and the then market price of our common stock which could result in the issuance of substantial additional shares of common stock upon a cashless exercise. This offering as well as future offerings could result in further dilution to investors as a result of price adjustment provisions in the warrants. We are seeking to use a portion of the proceeds of this offering to repurchase between 50% and 100% of such warrants pursuant to a warrant repurchase option agreement. In the event we decide to repurchase less than all of the warrants, we will require the consent of the investor at the time of such repurchase. We currently intend to repurchase all of the warrants. However, we cannot assure you that such repurchase will be effected.

Underwriter Warrants. Please see “Underwriting” for a description of Warrants to be issued to the underwriter.

TABLE OF CONTENTS

WARRANTS ISSUED IN THIS OFFERING

The warrants issued in this offering entitle the registered holder to purchase an aggregate of 2,800,000 shares of our common stock at a price equal to \$3.50 per share, subject to adjustment as discussed below, at any time commencing upon consummation of this offering and terminating at 5:00 p.m., New York City time, on the fifth anniversary of the closing of this offering.

The warrants will be issued in registered form under a warrant agreement between us and our warrant agent. The material provisions of the warrants are set forth herein but are only a summary and are qualified in their entirety by the provisions of the warrant agreement that has been filed as an exhibit to the registration statement of which this prospectus forms a part. The exercise price and number of shares of common stock issuable upon exercise of the warrants may be adjusted in certain circumstances, including in the event of a stock dividend, extraordinary dividend or recapitalization, reorganization, merger or consolidation. However, the warrants will not be adjusted for issuances of common stock at a price below their respective exercise prices.

The warrants may be exercised upon surrender of the warrant certificate on or prior to the expiration date at the offices of the warrant agent, with the exercise form on the reverse side of the public warrant certificate completed and executed as indicated, accompanied by full payment of the exercise price, by certified or official bank check payable to us, for the number of warrants being exercised. Under the terms of the warrant agreement, we have agreed to use our reasonable best efforts to maintain the effectiveness of the registration statement and current prospectus relating to common stock issuable upon exercise of the warrants until the expiration of the warrants. During any period we fail to have maintained an effective registration statement covering the shares underlying the warrants, the warrant holder may exercise the warrants on a cashless basis and if the requirements of Rule 144 of the Securities Act have been satisfied the shares may be freely sold. If the requirements of Rule 144 of the Securities Act have not been satisfied and there is no registration statement filed, warrant holders be entitled to certain cash payments until the warrant shares can be delivered with a legend.

The warrant holders do not have the rights or privileges of holders of common stock and any voting rights until they exercise their warrants and receive shares of common stock; provided that if we issue options, convertible securities, warrants or similar securities to our stockholders, each warrant holder will have the right to acquire the same as if it had exercised its warrants for common stock. After the issuance of shares of common stock upon exercise of the warrants, each holder will be entitled to one vote for each share held of record on all matters to be voted on by stockholders.

In the event of a “Fundamental Transaction” (as defined in the warrant agreement, which generally includes any merger with another entity, the sale, transfer or other disposition of all or substantially all of our assets to another entity, or the acquisition by a person of more than 50% of our common stock), each warrant holder will have the right at any time prior to the consummation of the Fundamental Transaction to require us to repurchase the warrant for a purchase price in cash equal to the Black Scholes value (as calculated under the warrant agreement) of the then remaining unexercised portion of such warrant on the date of such Fundamental Transaction. Any warrant holder that receives cash described in the preceding sentence shall not receive any “Alternate Consideration” (as defined in the warrant agreement) from such Fundamental Transaction. The “Alternate Consideration” generally means the number of shares of the successor or acquiring corporation and any additional consideration receivable as a result of such Fundamental Transaction.

No fractional shares of common stock will be issued upon exercise of the warrants. If, upon exercise of the warrants, a holder would be entitled to receive a fractional interest in a share, we will, upon exercise, round up to the nearest whole number of shares of common stock to be issued to the warrant holder.

Anti-takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws

Our certificate of incorporation contains provisions that could make it more difficult to acquire control of our company by means of a tender offer, open market purchases, a proxy contest or otherwise. A description of these provisions is set forth below.

Preferred Stock

We believe that the availability of the preferred stock under our certificate of incorporation provides us with flexibility in addressing corporate issues that may arise. Having these authorized shares available for

TABLE OF CONTENTS

issuance allows us to issue shares of preferred stock without the expense and delay of a special stockholders' meeting. The authorized shares of preferred stock, as well as shares of common stock, will be available for issuance without further action by our stockholders, unless action is required by applicable law or the rules of any stock exchange on which our securities may be listed. The board of directors has the power, subject to applicable law, to issue series of preferred stock that could, depending on the terms of the series, impede the completion of a merger, tender offer or other takeover attempt that some, or a majority, of the stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then prevailing market price of the stock.

Advance Notice Procedure

Our bylaws provide an advance notice procedure for stockholders to nominate director candidates for election or to bring business before an annual meeting of stockholders. Only persons nominated by, or at the direction of, our board of directors or by a stockholder who has given proper and timely notice to our secretary prior to the meeting, will be eligible for election as a director. In addition, any proposed business other than the nomination of persons for election to our board of directors must constitute a proper matter for stockholder action pursuant to the notice of meeting delivered to us. For notice to be timely, it must be received by our secretary not less than 90 nor more than 120 calendar days prior to the first anniversary of the previous year's annual meeting (or if the date of the annual meeting is advanced more than 30 calendar days or delayed by more than 60 calendar days from the anniversary date of the previous year's annual meeting, not earlier than the 90th calendar day prior to such meeting or the 10th calendar day after public disclosure of the date of such meeting is first made). These advance notice provisions may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempt to obtain control of us.

Special Meetings of Stockholders

Our bylaws provide that special meetings of stockholders may be called only by the Chairman of the Board, the Chief Executive Officer, or the Board of Directors pursuant to a resolution adopted by a majority of the Board.

Anti-Takeover Effects of Delaware Law

Section 203 of the Delaware General Corporation Law (DGCL) provides that, subject to exceptions specified therein, an "interested stockholder" of a Delaware corporation shall not engage in any "business combination," including general mergers or consolidations or acquisitions of additional shares of the corporation, with the corporation for a three-year period following the time that such stockholder becomes an interested stockholder unless:

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- prior to such time, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
-
- upon consummation of the transaction which resulted in the stockholder becoming an "interested stockholder," the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced (excluding specified shares); or
-
- on or subsequent to such time, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock not owned by the interested stockholder.

Under Section 203, the restrictions described above also do not apply to specified business combinations proposed by an interested stockholder following the announcement or notification of one of specified transactions involving the corporation and a person who had not been an interested stockholder during the previous three years or who became an interested stockholder with the approval of a majority of the corporation's directors, if such transaction is approved

or not opposed by a majority of the directors who were directors prior to any person becoming an interested stockholder during the previous three years

76

TABLE OF CONTENTS

or were recommended for election or elected to succeed such directors by a majority of such directors. The restrictions described above also do not apply to specified business combinations with a person who is an “interested stockholder” prior to the time when the corporation’s common stock is listed on a national securities exchange, so these restrictions would not apply to a business combination with any person who is one of our stockholders prior to this offering. Except as otherwise specified in Section 203, an “interested stockholder” is defined to include:

-
- any person that is the owner of 15% or more of the outstanding voting stock of the corporation, or is an affiliate or associate of the corporation and was the owner of 15% or more of the outstanding voting stock of the corporation at any time within three years immediately prior to the date of determination; and
-
- the affiliates and associates of any such person

Under some circumstances, Section 203 makes it more difficult for a person who is an interested stockholder to effect various business combinations with us for a three-year period.

Listing

Our shares of common stock and the warrants offered hereby are currently listed on The NASDAQ Capital Market under the symbols “APDN” and “APDNW,” respectively.

Transfer Agent and Registrar

American Stock Transfer & Trust Company, located in Brooklyn, New York, is the transfer agent and registrar for our common stock.

INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Our Certificate of Incorporation provides to the fullest extent permitted by Delaware law that our directors or officers shall not be personally liable to us or our stockholders for damages for breach of such director’s or officer’s fiduciary duty. The effect of this provision of our Certificate of Incorporation is to eliminate our rights and our stockholders (through stockholders’ derivative suits on behalf of our company) to recover damages against a director or officer for breach of the fiduciary duty of care as a director or officer (including breaches resulting from negligent or grossly negligent behavior), except under certain situations defined by statute. We believe that the indemnification provisions in our Certificate of Incorporation are necessary to attract and retain qualified persons as directors and officers.

On September 7, 2012, pursuant to Board of Director approval, we entered into an indemnification agreement (each, an “Indemnification Agreement”) with each of our directors and executive officers. In general, the Indemnification Agreement obligates us to indemnify a director or executive officer, to the fullest extent permitted by applicable law, for certain expenses, including attorneys’ fees, judgments, penalties, fines and settlement amounts actually and reasonably incurred by them in any action or proceeding arising out of their services as one of our directors or officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request. In addition, the Indemnification Agreement provides for the advancement of expenses incurred by the indemnitee in connection with any covered proceeding to the fullest extent permitted by applicable law. The rights provided by the Indemnification Agreement are in addition to any other rights to indemnification or advancement of expenses to which the indemnitee may be entitled under applicable law, the Company’s articles of incorporation or bylaws, or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act, may be permitted to directors, officers or persons controlling us pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

TABLE OF CONTENTS

PENNY STOCK

The SEC has adopted Rule 15g-9 which establishes the definition of a “penny stock,” for the purposes relevant to us, as any equity security that has a market price of less than \$5.00 per share or with an exercise price of less than \$5.00 per share, subject to certain exceptions. For any transaction involving a penny stock, unless exempt, the rules require:

-
- that a broker or dealer approve a person’s account for transactions in penny stocks; and
-
- the broker or dealer receive from the investor a written agreement to the transaction, setting forth the identity and quantity of the penny stock to be purchased.

In order to approve a person’s account for transactions in penny stocks, the broker or dealer must

-
- obtain financial information and investment experience objectives of the person; and
-
- make a reasonable determination that the transactions in penny stocks are suitable for that person and the person has sufficient knowledge and experience in financial matters to be capable of evaluating the risks of transactions in penny stocks.

The broker or dealer must also deliver, prior to any transaction in a penny stock, a disclosure schedule prescribed by the SEC relating to the penny stock market, which, in highlight form:

-
- sets forth the basis on which the broker or dealer made the suitability determination; and
-
- that the broker or dealer received a signed, written agreement from the investor prior to the transaction.

Disclosure also has to be made about the risks of investing in penny stocks in both public offerings and in secondary trading and about the commissions payable to both the broker-dealer and the registered representative, current quotations for the securities and the rights and remedies available to an investor in cases of fraud in penny stock transactions. Finally, monthly statements have to be sent disclosing recent price information for the penny stock held in the account and information on the limited market in penny stocks.

TABLE OF CONTENTS

UNDERWRITING

We have entered into an underwriting agreement with Maxim Group LLC acting as the sole book-running manager and sole representative for the underwriters named below. Subject to the terms and conditions of the underwriting agreement, the underwriters named below have agreed to purchase, and we have agreed to sell to them, the number of shares of common stock and warrants to purchase common stock at the public offering price, less the underwriting discounts, commissions, as set forth on the cover page of this prospectus and as indicated below:

Underwriter	Number of Shares
Maxim Group LLC	2,735,000
Dawson James Securities, Inc.	65,000
Total	2,800,000

The underwriting agreement provides that the obligations of the underwriters to pay for and accept delivery of the shares and warrants offered by this prospectus are subject to the approval of certain legal matters by their counsel and to other conditions. The underwriters are obligated to take and pay for all of the shares and warrants offered by this prospectus if any such shares and warrants are taken, other than those shares and warrants covered by the over-allotment option described below.

Over-Allotment Option

We have granted to the underwriters an option, exercisable not later than 45 days after the effective date of the registration statement, to purchase up to 420,000 additional shares and/or warrants to purchase an aggregate of 420,000 shares of common stock, at a per share price of \$3.25 less the underwriting discounts and commissions set forth on the cover of this prospectus. The underwriters may exercise this option only to cover over-allotments made in connection with this offering. To the extent that the underwriters exercise this option, each of the underwriters will become obligated, subject to conditions, to purchase approximately the same percentage of these additional shares and warrants as the number of shares and warrants to be purchased by it in the above table bears to the total number of shares and warrants offered by this prospectus. We will be obligated, pursuant to the option, to sell these additional shares and warrants to the underwriters to the extent the option is exercised. If any additional shares and warrants are purchased, the underwriters will offer the additional shares and warrants on the same terms as those on which the other shares and warrants are being offered hereunder.

Commissions

We have agreed to pay the underwriters (i) a cash fee equal to seven percent of the aggregate gross proceeds raised in this offering and (ii) warrants to purchase that number of shares of our common stock equal to an aggregate of four percent (4%) of the shares of common stock sold in the offering (or 128,800 shares). Such underwriters' warrants shall have an exercise price equal to \$3.73 per share, which is 115% of the public offering price, terminate five years after the effective date of this registration statement, and otherwise have the same terms as the warrants sold in this offering except that (1) they will provide for cashless exercise, (2) they will provide up to two demand registration rights with respect to the underlying shares (one at our expense) for a period of five years from the date of effectiveness of this registration statement and (3) they will provide for unlimited "piggyback" registration rights with respect to the underlying shares during the five year period commencing six months after the effective date of this offering. Such underwriters' warrants will be subject to FINRA Rule 5110(g)(1) in that, except as otherwise permitted by FINRA rules, for a period of 180 days following the effectiveness of the registration statement, of which this prospectus forms a part, the underwriters' warrants shall not be (A) sold, transferred, assigned, pledged, or hypothecated, or (B) the subject of any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the securities by any person.

The representative has advised us that the underwriters propose to offer the shares and warrants directly to the public at the public offering price set forth on the cover of this prospectus. In addition, the representative may offer some of the shares and warrants to other securities dealers at such price less a

TABLE OF CONTENTS

concession of up to \$0.11375 per share. After the offering to the public, the offering price and other selling terms may be changed by the representative without changing the proceeds we will receive from the underwriters.

The following table summarizes the public offering price, underwriting commissions and proceeds before expenses to us assuming both no exercise and full exercise of the underwriters' option to purchase additional shares and warrants. The underwriting commissions are equal to the public offering price per share less the amount per share the underwriters pay us for the shares and warrants.

	Per Share and Warrant (1)	Total Without Over Allotment	Total With Over-Allotment
Public Offering price	\$ 3.2500	\$ 9,100,000	\$ 10,465,000
Underwriting discounts and commissions	\$ 0.2275	\$ 637,000	\$ 732,550
Proceeds, before expenses, to us	\$ 3.0225	\$ 8,463,000	\$ 9,732,450

(1)

- The fees shown do not include the warrant to purchase shares of common stock issuable to the underwriters at closing.

We estimate that the total expenses of the offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding underwriting discounts and commissions, will be approximately \$520,500, all of which are payable by us.

Lock-Up Agreements

We and each of our officers and directors have agreed, subject to certain exceptions, not to offer, issue, sell, contract to sell, encumber, grant any option for the sale of or otherwise dispose of any shares of our common stock or other securities convertible into or exercisable or exchangeable for shares of our common stock for a period of six (6) months after the effective date of the registration statement of which this prospectus is a part without the prior written consent of Maxim Group LLC.

Maxim Group LLC may in its sole discretion and at any time without notice release some or all of the shares subject to lock-up agreements prior to the expiration of the lock-up period. When determining whether or not to release shares from the lock-up agreements, the representative will consider, among other factors, the security holder's reasons for requesting the release, the number of shares for which the release is being requested and market conditions at the time.

Price Stabilization, Short Positions and Penalty Bids

In connection with this offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock. Specifically, the underwriters may over-allot in connection with this offering by selling more shares and warrants than are set forth on the cover page of this prospectus. This creates a short position in our common stock for its own account. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares common stock or warrants over-allotted by the underwriters is not greater than the number of shares of common stock or warrants that they may purchase in the over-allotment option. In a naked short position, the number of shares of common stock or warrants involved is greater than the number of shares common stock or warrants in the over-allotment option. To close out a short position, the underwriters may elect to exercise all or part of the over-allotment option. The underwriters may also elect to stabilize the price of our common stock or reduce any short position by bidding for, and purchasing, common stock in the open market.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter or dealer repays selling concessions allowed to it for distributing a security in this offering because the underwriter repurchases that security in stabilizing or short covering transactions.

Finally, the underwriters may bid for, and purchase, shares of our common stock in market making transactions, including “passive” market making transactions as described below.

80

TABLE OF CONTENTS

These activities may stabilize or maintain the market price of our common stock at a price that is higher than the price that might otherwise exist in the absence of these activities. The underwriters are not required to engage in these activities, and may discontinue any of these activities at any time without notice. These transactions may be effected on The NASDAQ Capital Market, in the over-the-counter market, or otherwise.

In connection with this offering, the underwriters and selling group members, if any, or their affiliates may engage in passive market making transactions in our common stock immediately prior to the commencement of sales in this offering, in accordance with Rule 103 of Regulation M under the Exchange Act. Rule 103 generally provides that:

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- a passive market maker may not effect transactions or display bids for our common stock in excess of the highest independent bid price by persons who are not passive market makers;
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- net purchases by a passive market maker on each day are generally limited to 30% of the passive market maker's average daily trading volume in our common stock during a specified two-month prior period or 200 shares, whichever is greater, and must be discontinued when that limit is reached; and
-
- passive market making bids must be identified as such.

Right of First Refusal

We have agreed to grant Maxim Group LLC, for the 6 month period following the closing of this offering, a right of first refusal to act as manager or co-manager for any public underwriting or private placement of debt or equity securities, except for offerings involving equity compensation to our employees, equity issued in connection with a strategic acquisition or joint venture or any commercial bank financing.

Other Terms

In addition, we have agreed to reimburse the underwriters for all reasonable out-of-pocket expenses up to \$100,000, including but not limited to reasonable legal fees, incurred by the underwriters in connection with the offering. Any expenses in excess of \$5,000, excluding fees for legal counsel, shall be subject to our prior approval, which such approval shall not be unreasonably withheld. We will reimburse the underwriters for all such expenses regardless of whether the offering is consummated.

The underwriters and their affiliates may in the future provide various investment banking and other financial services for us, for which they may receive, in the future, customary fees.

Indemnification

We have agreed to indemnify the underwriters against liabilities relating to the offering arising under the Securities Act and the Exchange Act, liabilities arising from breaches of some or all of the representations and warranties contained in the underwriting agreement, and to contribute to payments that the underwriters may be required to make for these liabilities.

Electronic Distribution

A prospectus in electronic format may be made available on a website maintained by the representatives of the underwriters and may also be made available on a website maintained by other underwriters. The underwriters may agree to allocate a number of shares to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives of the underwriters to underwriters that may make Internet distributions on the same basis as other allocations. In connection with the offering, the underwriters or syndicate members may distribute prospectuses electronically. No forms of electronic prospectus other than prospectuses that are printable as Adobe® PDF will be used in connection with this offering.

The underwriters have informed us that they do not expect to confirm sales of shares and warrants offered by this prospectus to accounts over which they exercise discretionary authority.

TABLE OF CONTENTS

Other than the prospectus in electronic format, the information on any underwriter's website and any information contained in any other website maintained by an underwriter is not part of the prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or any underwriter in its capacity as underwriter and should not be relied upon by investors.

Foreign Regulatory Restrictions on Purchase of Securities Offered Hereby Generally

No action has been or will be taken in any jurisdiction (except in the United States) that would permit a public offering of the securities offered by this prospectus, or the possession, circulation or distribution of this prospectus or any other material relating to us or the securities offered hereby in any jurisdiction where action for that purpose is required. Accordingly, the securities offered hereby may not be offered or sold, directly or indirectly, and neither of this prospectus nor any other offering material or advertisements in connection with the securities offered hereby may be distributed or published, in or from any country or jurisdiction except in compliance with any applicable rules and regulations of any such country or jurisdiction.

Each of the underwriters may arrange to sell securities offered by this prospectus in certain jurisdictions outside the United States, either directly or through affiliates, where they are permitted to do so.

82

TABLE OF CONTENTS

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Fulbright & Jaworski LLP, a member firm of Norton Rose Fulbright, New York, New York. Harter Secrest & Emery LLP is acting as counsel for the underwriter in this offering.

EXPERTS

The consolidated financial statements as of and for the years ended September 30, 2013 and 2012 included in this prospectus have been so included in reliance on the report of RBSM LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements as of and for the years ended September 30, 2012 and 2011 included in this prospectus have been so included in reliance on the report of RBSM LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

On June 23, 2014, we appointed Marcum LLP as our independent registered public accounting firm for the fiscal year ending September 30, 2014 and dismissed RBSM LLP as our independent registered public accounting firm. Both actions were approved by our Audit Committee. The reports issued by RBSM LLP with respect to our consolidated financial statements for the fiscal years ended on September 30, 2013 and 2012 did not contain an adverse opinion or a disclaimer of opinion, nor were they qualified or modified as to uncertainty, audit scope or accounting principles. During our two most recent fiscal years (and the subsequent interim periods preceding RBSM LLP's dismissal), there were no disagreements between us and RBSM LLP on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreement(s), if not resolved to the satisfaction of RBSM LLP, would have caused RBSM LLP to make reference to the subject matter of the disagreement(s) in connection with its report(s).

During the fiscal years ended September 30, 2013 and 2012, there were no "reportable events" (as defined in Item 304(a)(1)(v) of Regulation S-K), except that in RBSM LLP's report dated May 1, 2014 on the Company's internal control over financial reporting as of September 30, 2013, RBSM LLP expressed an adverse opinion on the effectiveness of the Company's internal control over financial reporting due to the existence of the material weakness identified and described elsewhere in this prospectus.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-1 under the Securities Act, as amended, relating to the shares of common stock being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information included in the registration statement and exhibits. Statements contained in this prospectus about the contents of any contract or any other document are not necessarily complete and, in each instance, we refer you to the copy of the contract or other documents filed as an exhibit to or incorporated by reference to our filings with the SEC. Each of these statements is qualified in all respects by this reference.

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended, which requires us to file annual, quarterly and current reports and other information with the SEC. We make available through our website at www.adnas.com our annual reports, quarterly reports, current reports and amendments thereto as reasonably practicable after filing with the SEC. Such reports and other information may be inspected at public reference facilities of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Copies of such material can be obtained from the Public Reference Section of the SEC at 100 F Street, N.E., Washington, D.C. 20549 at prescribed rates. Because we file documents electronically with the SEC, you may also obtain this information by visiting the SEC's website at www.sec.gov.

TABLE OF CONTENTS

APPLIED DNA SCIENCES, INC.

INDEX TO THE FINANCIAL STATEMENTS

Condensed Consolidated Financial Statements

for the Three and Nine Months Ended June 30, 2014 and 2013 (unaudited)

	Page
<u>Condensed Consolidated Balance Sheets as of June 30, 2014 and September 30, 2013</u>	<u>F-2</u>
<u>Condensed Consolidated Statements of Operations for the Three and Nine Months Ended June 30, 2014 and 2013</u>	<u>F-3</u>
<u>Condensed Consolidated Statements of Cash Flows for the Nine Months Ended June 30, 2014 and 2013</u>	<u>F-4</u>
<u>Notes to Condensed Consolidated Financial Statements</u>	<u>F-5</u>

Consolidated Financial Statements

for the Fiscal Years Ended September 30, 2013 and 2012

	Page
<u>Report of Independent Registered Public Accounting Firm</u>	<u>F-17</u>
<u>Consolidated Balance Sheets as of September 30, 2013 and 2012</u>	<u>F-18</u>
<u>Consolidated Statements of Operations for the Years Ended September 30, 2013 and 2012</u>	<u>F-19</u>
<u>Consolidated Statements of Stockholders' Equity for the Years Ended September 30, 2013 and 2012</u>	<u>F-20</u>
<u>Consolidated Statements of Cash Flows for the Years Ended September 30, 2013 and 2012</u>	<u>F-21</u>
<u>Notes to Consolidated Financial Statements</u>	<u>F-22</u>

Consolidated Financial Statements

for the Fiscal Years Ended September 30, 2012 and 2011

	Page
<u>Report of Independent Registered Public Accounting Firm</u>	<u>F-45</u>
<u>Consolidated Balance Sheets as of September 30, 2012 and 2011</u>	<u>F-46</u>
<u>Consolidated Statements of Operations for the Years Ended September 30, 2012 and 2011</u>	<u>F-47</u>
<u>Consolidated Statements of Stockholders' Equity (Deficit) for the Years Ended September 30, 2012 and 2011</u>	<u>F-48</u>
<u>Consolidated Statements of Cash Flows for the Years Ended September 30, 2012 and 2011</u>	<u>F-49</u>
<u>Notes to Consolidated Financial Statements</u>	<u>F-50</u>

F-1

TABLE OF CONTENTS

APPLIED DNA SCIENCES, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 2014 (unaudited)	September 30, 2013
ASSETS		
Current assets:		
Cash and cash equivalents	\$2,025,716	\$6,360,301
Accounts receivable, net of allowance of \$36,757 and \$62,415 at June 30, 2014 and September 30, 2013, respectively	518,274	672,638
Prepaid expenses	170,792	174,096
Total current assets	2,714,782	7,207,035
Property, plant and equipment, net	649,417	695,995
Other assets:		
Deposits	55,488	51,260
Intangible assets:		
Intellectual property, net of accumulated amortization and impairment of \$232,751 and \$163,403 at June 30, 2014 and September 30, 2013, respectively	351,328	420,676
Total Assets	\$3,771,015	\$8,374,966
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	\$1,259,439	\$966,977
Deferred revenue	348,624	148,503
Total current liabilities	1,608,063	1,115,480
Warrant liability	1,851,723	2,643,449
Total liabilities	3,459,786	3,758,929
Commitments and contingencies		
Stockholders' Equity		
Preferred stock, par value \$0.001 per share; 10,000,000 shares authorized; -0- shares issued and outstanding as of June 30, 2014 and September 30, 2013	—	—
Series A Preferred stock, par value \$0.001 per share, 10,000,000 shares authorized; -0- issued and outstanding as of June 30, 2014 and September 30, 2013	—	—
Series B Preferred stock, par value \$0.001 per share, 10,000,000 shares authorized; -0- issued and outstanding as of June 30, 2014 and September 30, 2013	—	—
Common stock, par value \$0.001 per share; 1,350,000,000 shares authorized; 13,788,872 and 13,108,783 shares issued and outstanding as of June 30, 2014 and September 30, 2013, respectively	13,789	13,109
Additional paid in capital	197,952,194	191,296,539
Accumulated deficit	(197,654,754)	(186,693,611)
Total stockholders' equity	311,229	4,616,037