EXECUTIVE INFORMATIONAL OVERVIEW

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DNA Platform Technologies Offering Anti-Counterfeiting Security Solutions

Snapshot

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Applied DNA Sciences, Inc. ("Applied DNA" or "the Company") provides **DNA**[†]-based security and **authentication** solutions to protect products, brands, and intellectual property from theft, **counterfeiting**, fraud, and **diversion**. DNA evidence is trusted by police and recognized by courts worldwide. Used by forensic laboratories, including the FBI, DNA authentication is absolute with a margin of error close to zero. Applied DNA markets several security platforms, for which its pipeline may include as many as 50 to 60 projects at any time. The Company's SigNature® DNA platform is used to embed products, such as inks, dyes, textile treatments, thermal ribbon, thread, varnishes, and adhesives, with botanical DNA markers that have been highly customized from plant DNA. These traceable markers identify original products and cannot be copied or reverse engineered. Over 600 million products to date have employed this DNA technology. The ability to incorporate DNA markers directly into individual goods makes SigNature® DNA applicable to many industries, including **cash-and-valuables-in-transit (CViT)**, textiles and apparel, secure documents, pharmaceuticals, wine, and luxury items. A second platform, BioMaterial Genotyping™, is used to determine the authenticity of natural materials used in finished products by detecting and identifying their genomic DNA. Applied DNA's technologies may offer several advantages over alternatives: (1) resistance to replication; (2) forensic capabilities that can be used to prosecute counterfeiters; (3) low error rates; and (4) affordability.

Recent Financial Data

Ticker (Exchange)	APDN (OTC.BB)
Recent Price (11/04/2010)	$0.04
52-week Range	$0.03 - $0.13
Shares Outstanding*	~336.9 million
Market Capitalization	~$13.5 million
Average 3-month Volume	287,865
Insider Owners +5%	12.67%
Institutional Owners	N/A
EPS (Qtr. ended 06/30/2010)	($0.00) dil.
Employees	15

* As of August 13, 2010.

Key Points

- In the nine months ended June 30, 2010, Applied DNA generated over $430,000 in revenues, up from $234,000 in the same nine months of fiscal 2009, primarily due to a 50% increase in customers during 2010 as well as an increased focus on sales of authentication services and SigNature® DNA products.
- Loomis UK Ltd., a cash-handling company that moves over £150 billion annually, uses SigNature® DNA to protect its cash boxes, reduce cash attacks, and minimize losses. SigNature® DNA's forensic value has also assisted in prosecutions of over 35 CViT cases from multiple UK Metropolitan Police teams, with a 100% success rate to date. In September 2010, Applied DNA and Lancashire Constabulary won the Excellence in Policing Award for linking cash crimes to criminals using SigNature® DNA.
- In August 2010, Applied DNA launched Cashield™, a new family of **LNE-certified** and **REACH-compliant** degradation inks to offer a safer, stronger staining system for banknotes than current inks.
- Following the success of its CViT business, Applied DNA developed DNANet™ Tactical Forensic Systems to assist law enforcement and corporate security in sting operations, providing a means to link crimes to criminals. DNANet™ is a tactical forensic system that supplies unique DNA codes for **covert** operations requiring absolute proof of authentication.
- Applied DNA holds 14 issued, 13 **provisional**, and 8 pending patents, as well as several trademarks.
- At June 30, 2010, the Company had cash and cash equivalents of $21,566. Subsequently, in July 2010, Applied DNA raised ~$1.1 million in a private placement. The Company also entered into an engagement letter with an investment bank to pursue additional financing.

[†]**BOLD** WORDS ARE REFERENCED IN THE GLOSSARY ON PAGES 63-64.

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Executive Overview

Applied DNA Sciences, Inc. ("Applied DNA" or "the Company") is a provider of deoxyribonucleic acid (DNA)-based security and authentication solutions to identify originals and protect products, brands, and intellectual property from counterfeiting and diversion. DNA is a form of forensic evidence trusted by police and recognized by international courts around the world. Used by forensic laboratories globally, including the U.S. Federal Bureau of Investigation (FBI), DNA authentication is absolute in character, indicating that its margin of error is close to zero.

To date, over 600 million products are estimated to have benefited from the Company's "green" botanical DNA technology, which cannot be copied or reverse engineered. Known commercially as SigNature® DNA, Applied DNA's unique codes can be used to identify genuine versus fake items and provide forensic evidence that can be relied upon in court. In the UK, multiple cases have been successfully prosecuted based on the ability to link stolen banknotes marked with DNA to specific cash crimes. These cases demonstrate the forensic power of DNA. Reliable and robust by nature, DNA becomes inextricably bound to the stolen banknotes (or other related evidence) and cannot be removed by even the most aggressive solvents used by criminals.

During 2010, Applied DNA achieved a number of milestones that enhanced the Company's position and penetration of new geographic and vertical market segments. Specifically, Applied DNA has created new products to address needs in the market. In August 2010, the Company launched a new family of cash degradation inks called Cashield™. Certified by the Laboratoire National de Métrologie et d'Essais (LNE) and compliant with REACH (an EU standard for chemical safety), Cashield™ is now marketed and sold as a combined security system.

In addition, Applied DNA has recently developed a new product line, called DNANet™ Tactical Forensic Systems, in response to numerous requests from police and security professionals for a means to covertly mark and forensically authenticate items in sting operations and ransom investigations. DNANet™ is also used to manage risk and monitor employee theft at companies. For example, in the insurance industry, DNANet™ and forensic authentication are being promoted to consumers in the form of Forensic Coding Kits to mark personal items. In effect, the incorporation of DNA as both a taggant and an authentication tool is being realized across multiple global industries.

Among other developments, the Company has focused on establishing new strategic partnerships to facilitate expansion into new markets as well as to strengthen its position in current market segments with new product introductions. Together with the Textile Centre of Excellence (representing the Yorkshire textile region) at Premiere Vision 2010 (a global fabric show) in Paris, Applied DNA launched the first commercially available DNA Yarn that can be woven into a wide range of **worsted** woolen fabrics. This is part of a three-year, $1.5 million DNA Anti-Counterfeiting Program where Applied DNA is the primary supplier of DNA markers and forensic authentication services. With rampant counterfeiting using sub-standard yarns and fibers, Yorkshire Forward and the European Regional Development Agency have co-funded the DNA Anti-Counterfeiting Program in direct response to a growing market need to verify products from the original source provider.

In addition to SigNature® DNA, DNA that is naturally occurring in a raw material (e.g., cotton, wine, wool) can be used to authenticate products. Known as BioMaterial Genotyping™, this provides a means for determining the authenticity of natural materials used in finished products by detecting and identifying their genomic DNA. For **Supima®** and various yarn manufacturers around the world, Applied DNA provides a specific FiberTyping™ genetic assay to determine the authenticity of cotton fibers used to manufacture premium **Pima cotton** (*G. barbadense*) products.

Similarly, in response to market demand for instant readers, Applied DNA has partnered with Bilcare Technologies (inventors of the nonClonableID™) to market RapiDNA™, a unique DNA fingerprint that provides track-and-trace solutions. Marked products can be read by handheld scanners with data stored on a secure remote server. These compact, lightweight readers (comparable to a personal digital assistant [PDA]), may offer a rapid and affordable determination of whether or not a scanned product is an original. Moreover, maintaining a detailed database of every product authentication allows clients to determine where counterfeit products, if any, entered their supply chain. The cumulative forensic evidence this system provides may help a client build an evidentiary case that can be used to prosecute perpetrators, thereby reducing the monetary gains of counterfeiters.

Counterfeiting

Counterfeiting is one of the fastest growing **pecuniary** crimes, threatening jobs and businesses and endangering public health and safety. These fraudulent activities are driven by perceived potential profit, and have emerged almost solely over the last two decades. The International AntiCounterfeiting Coalition (IACC) estimates that counterfeiting has grown almost 10,000% in the past two decades.

Research from the World Customs Organization and the **International Criminal Police Organization (Interpol)** has valued annual global trade in illegitimate goods at roughly $650 billion as of 2007, which was expected to double to $1.2 trillion by 2014—ultimately representing between 5% and 7% of all trade. Contributing to the increase in counterfeiting is the expanding range of products that can be faked. Textiles and apparel, pharmaceuticals, microchips, currency, and high-value documents are all affected by counterfeiting and forgery. Fake pharmaceuticals as well as military and aerospace parts expose consumers and governments to significant health and safety risks that undermine any economic benefit derived from the lower prices. In addition, terrorist organizations and organized crime have become heavily involved in product counterfeiting. Law enforcement agencies have evidence linking counterfeiting to terrorist activities, such as the 1993 bombing of the World Trade Center and plots to bomb New York City landmarks. Recovered al Qaeda training manuals revealed that the terrorist organization recommends the sale of fake goods as one means to raise funds.

As the counterfeiting crisis expands, affected companies, industry organizations, and governments are seeking systems that can protect and verify the authenticity of products. There is a global movement among the U.S., EU, and several other countries to enact an Anti-Counterfeiting Trade Agreement as a method to address the global trade of fake merchandise, which is valued at over $200 billion to the U.S. (Source: Reuters August 20, 2010). Furthermore, the market for new anti-counterfeiting technologies, such as those supplied by Applied DNA, could surpass $82 billion by 2015 (Source: Global Industry Analysts, Inc.'s [a provider of market research] July 2010 report, *Anti-Counterfeit Packaging: a Global Business Report*). Applied DNA believes that the flexibility of its security solutions, SigNature® DNA, Cashield™, DNANet™, RapiDNA™, and BioMaterial Genotyping™, lends them to a multitude of different industries and security-related applications and enables integration with other anti-counterfeit technologies.

SigNature® DNA

SigNature® DNA uses extrinsic, "green," botanically derived DNA markers embedded into products that act as unique and traceable identifiers. The SigNature® DNA solution consists of three steps: (1) creating and encapsulating an encrypted DNA segment or marker; (2) applying the marker to a product or material; and (3) detecting the presence of and authenticating the specific DNA marker.

The SigNature® DNA process starts with strands of DNA from plants, segmented into smaller units, and re-arranged to create a group of specific DNA codes or sequences called markers. The DNA markers are then encapsulated and stabilized, providing protection against manufacturing processes and natural elements, and achieving durability and long-term shelf life for the authentication solution. Once they have been encapsulated, SigNature® DNA markers are then applied to products for identification. According to the Company, its embedment technology, which is the basis for a large number of patents, provides a variety of approaches to mark commercial products. The key to this technology relies on Applied DNA's ability to integrate markers directly into products or various types of carriers and media, such as special inks, dyes, paint, glue, polymers, or textile treatments, which are incorporated or attached to the product

in the form of labels or packaging. In addition, because SigNature® DNA is both a "green" and safe technology, it can be used in formulations of consumables, such as pharmaceuticals, which require U.S. Food and Drug Administration (FDA) approval.

Once applied, the presence of SigNature® DNA markers can be detected at any point along the product's logistic and supply chain. The Company offers two methods of authentication: (1) *Level 1*: non-forensic instant screening in the field with a handheld device, typically the size of a key fob, which can immediately detect the presence of rapid reporters layered with SigNature® DNA markers; and (2) *Level 2*: full forensic DNA sequencing, which is performed at one of Applied DNA's authentication laboratories and represents the highest resolution authentication (typically requiring one to three hours to complete).

The SigNature® DNA security platform provides the following benefits: (1) resistance to reverse engineering or replication (cannot be copied); (2) forensic capabilities; (3) low levels of error, with **false positives** occurring at less than one in a trillion (it is absolute); and (4) affordability.

Applied DNA's security platform has been independently validated through a two-year vetting process conducted by the Idaho National Laboratory, managed and operated by Battelle Energy Alliance, LLC for the U.S. Department of Energy (DOE).

SigNature® DNA Applications

Applied DNA's ability to incorporate SigNature® DNA markers directly into products or into various types of carriers lends itself to application across a multitude of industries, including cash-and-valuables-in-transit (CViT), textile and apparel authentication, secure documents, microchips, pharmaceuticals, consumer products, fine wine, art and collectibles, and digital and recording media, among many others. The Company's pipeline can include between 50 and 60 different projects at any particular time. Among these projects, Applied DNA is focusing on the areas described below and on pages 31-37, which the Company believes provide it with the best combination of revenues and a short sales cycle while at the same time showcasing the capability and effectiveness of its platforms.

On September 29, 2009, the Company announced the official launch of SigNature® DNA in Europe at CARTES & IDentification 2009 in Paris, France, an international showcase for technological innovation in the fields of identification, biometry, and authentication. Applied DNA was able to present SigNature® DNA and the strength of its DNA authentication, which has already gained traction in the UK for CViT, to other European markets.

Cash-and-Valuables-in-Transit (CViT)

The Company applies its SigNature® DNA platform to banks and institutions involved in the CViT business, such as cash transport and storage as well as automated teller machine (ATM) operations. The CViT efforts have been focused initially in the UK but the Company believes that this technology can be implemented worldwide, for which Applied DNA is currently performing feasibility studies in the Swedish and U.S. marketplaces. Applied DNA is also receiving interest from Australia, Asia, and Africa, and expects to begin propagating the use of its platform through these countries during 2011. Presently in the UK, the Company is addressing unmet needs for improved security in the CViT industry. The UK represents approximately 75% of all CViT robberies globally, with over £17 million (over $26 million) stolen in more than 1,000 CViT crimes during 2009 alone.

Applied DNA incorporates its botanical SigNature® DNA marker with a fluorescent rapid reporter that is embedded into cash degradation inks placed in CViT boxes. If a cash box is compromised or illegally accessed, the security device discharges the liquid cash degradation dye onto the currency, which covers the bank notes with the SigNature® DNA-marked ink. When the cash is recovered by the police, a Level 1 screening process is performed to detect the presence of the rapid reporter layered with the SigNature® DNA marker. If the screening is positive, the cash is sent to one of Applied DNA's laboratories for DNA Level 2 authentication. Since each cash box is assigned an individualized SigNature® DNA marker, a higher forensic level analysis can match the marker present in the recovered cash or evidence to a particular cash box and its owner, and ultimately to the criminal.

Beginning in January 2008, Applied DNA has worked with Loomis UK Ltd., a cash-handling company that moves over £150 billion in cash annually. Since that time, Applied DNA has gradually increased its market share of the taggants used by the UK CViT industry to over 30%. To date, the Company has authenticated evidence in 35 CViT cases from multiple UK police departments, with a 100% success rate thus far in confirming dye-stained stolen goods. Thirteen individuals have been convicted through the help of SigNature® DNA markers. For one trial in particular, where a security guard was shot, the use of Applied DNA's dyes marking the stolen cash helped lead to the conviction of five defendants for over 60 years of jail time.

Altogether, Applied DNA's customers have experienced a 49% reduction in losses as a result of CViT offenses year-over-year versus the UK industry as a whole, which only experienced a 34% decrease. Further, in September 2010, Applied DNA, in partnership with the Lancashire Constabulary, was presented with the Excellence in Policing Award for its innovative use of DNA forensic markers. This award was designed to promote the sharing of creative and innovative projects that enhance performance and productivity of the UK police.

Cashield™ Cash Degradation Inks

To support its CViT business, in late 2009, the Company announced an exclusive agreement with Swiss company Printcolor Screen Ltd. for the commercial production of a new blue cash degradation dye, called AzSure®. AzSure® is characterized by a vivid blue color under ambient light and a brilliant blue under **ultraviolet (UV)** light. The color pattern is novel in the industry and indicates that stolen cash has been protected with a forensic degradation dye. By August 2010, the AzSure® know-how had been expanded to a family of cash degradation dyes called Cashield™. Cashield™ is a family of cash degradation inks that permanently stain banknotes stolen from cash-handling or ATM systems. Cashield™ extends Applied DNA's offering beyond its prior singular product, AzSure®, to a family of security inks that include Red, Violet, Green, Teal, Indigo, and the original AzSure® Blue.

Current degradation dyes suffer from a critical technical weakness, as the dyes may be removed by the use of solvents. Applied DNA initiated the development of Cashield™ in response to demand for a more effective carrier for its SigNature DNA® markers. A CViT study presented by the University of Leeds cited Applied DNA's ink as having improved performance versus staining inks from other suppliers (Source: Imperial Capital's *Anticounterfeiting and Brand Protection* 2010). In this study, the AzSure® Blue ink was tested across a range of currencies, including British pounds, euros, and U.S. dollars. The evaluation involved exposure to numerous industrial solvents. Final analysis of the results concluded that the AzSure® Blue ink was bound strongly in five seconds or less to a variety of banknotes, and could not be removed with any solvent. Likewise, Cashield™ has been certified for use in the EU by the LNE and passed all 47 individual dye penetration and wash-out-resistance tests.

Textiles and Apparel

One of the Company's textile-based security applications uses SigNature® DNA to offer quality assurance for textiles and apparel manufactured in Yorkshire and to confirm that products "Made in England" are genuine. The Company is currently working with the Textile Centre for Excellence, the European Regional Development Fund and Yorkshire Forward (a regional development agency), the University of Leeds, and a consortium of Yorkshire companies, to demonstrate the commercial integration of SigNature® DNA into existing textile and apparel manufacturing processes. As part of an initial feasibility study, Applied DNA incorporated SigNature® DNA markers into the woolen yarn and threads used to produce the pinstripes and labels in a classic fine worsted wool pinstripe suit as well as covered the entire fabric with DNA in a finishing treatment. As part of the launch of the DNA Anti-Counterfeiting Program, a custom men's jacket made by tailor James Michelsberg was treated with SigNature® DNA to create a unique "fingerprint" proving its authenticity. The fibers for the cloth used to make the suit were immersed in SigNature® DNA as they were put on the loom, before the fabric was finished. A feasibility test is ongoing to authenticate SigNature® DNA in labels for high-end designer goods.

BioMaterial Genotyping™

Applied DNA's anti-counterfeiting platform, BioMaterial Genotyping™, confirms the authenticity of natural products by detecting and identifying the genomic DNA of materials used in finished products. BioMaterial Genotyping™ can be used to authenticate natural materials present in, but not limited to, textiles and apparel, consumables, nutraceuticals, pharmaceuticals, and food.

Authentication issues plague the global textile and apparel industries. Every phase of the textile supply chain is vulnerable to counterfeiting, from fiber to finished goods. Each time a product changes hands, the potential for illegal substitution of an inferior product increases. All forms of textiles are targeted, from high-tech synthetic yarns to wool fabrics; from cotton bed linen to outdoor non-woven fabrics; and from "haute couture" fabrics to automotive interiors. Billions of dollars per year are lost due to counterfeiting practices in the textile and apparel industry, creating sub-standard products that appear to be good quality but often fail to perform after a few launderings.

Identification and confirmation of the source or type of natural product used in a finished item has important advantages. Authentication of the natural material helps prevent and detect counterfeits while enabling manufacturers to improve quality control throughout all the stages of the supply chain and manufacturing process.

BioMaterial Genotyping™ Applications

Applications of the Company's technology are broad and include anything that is biological in nature. For example, Applied DNA has developed proprietary protocols to differentiate between biological species of cotton for the textile industry. Additionally, the Company has methods to distinguish the genetic signature of the natural materials used in currency (typically cotton and linen) in order to identify the unique signature of cellulose paper used in British and American currencies. This capability may have application in the authentication of other secure documents as well, such as share certificates, wills, and insurance policies. Due to the flexibility of this application and its ability to cover virtually any product that contains naturally occurring DNA (such as coffee, rice, tea, biological drugs, wine, vitamins, and food), Applied DNA believes that the global market for BioMaterial Genotyping™ could exceed $1 trillion.

Applied DNA currently employs its BioMaterial Genotyping™ platform to identify the fiber content and geographic origin of finished textiles for Pima cotton. As such, the Company enables brand owners to ensure the quality of finished goods and helps governments regulate the international cotton trade.

The Company has developed two proprietary processes to identify biological species of cotton: (1) FiberTyping™, which distinguishes between Pima and **Upland cotton**; and (2) PimaTyping™, which differentiates between Pima cottons grown in different regions of the world.

To Applied DNA's knowledge, prior to the FiberTyping™ assay, there had never been a successful attempt to extract DNA from mature cotton fibers, which were believed to be devoid of usable DNA. Applied DNA proved this untrue by developing methods that allow for the extraction of DNA from mature cotton fibers. The Company extended its genotyping process to the genetic analysis of single fibers, which permits the authentication of fabrics blending multiple cottons, such as towels and bed linens. FiberTyping™ can also be used to test for premium fibers and products, such as Egyptian Giza, Peruvian, Sea Island, and Israeli **extra long staple cottons**.

Supima®

Applied DNA has been working with Supima®, the promotional organization of U.S. Pima cotton growers, its member companies (including the largest Pima and Upland cotton growers in the U.S.), and its licensees (including more than 300 retailers, brand owners, and contract manufacturers) to help preserve the brand's reputation. Pima cotton is among the most costly and highest quality cotton grown in the U.S., representing less than 3% of the total production. In finished goods, there is a great value to the name Pima. The cost differential between Pima and Upland cotton (roughly 20%) is significant. Accordingly, manufacturers are incentivized to add cheaper cotton strands, such as Upland, to products labeled 100% Pima in order to improve profit margins.

By assisting with compliance of Federal Trade Commission (FTC) labeling laws and the Textile Fiber Products Identification Act ("Textile Act"), Applied DNA's offerings enable Supima® to maintain its quality standards and ensure that all parties throughout the supply chain—cotton farmers, ginners, spinners, weavers, finishers, garment assemblers, distributors, and retailers—are compliant. The FTC ruled in June 1997 that manufacturers and retailers must itemize cotton source content on any apparel or textile product when the name of a premium fiber is being used. The Textile Act and rules enforced by the FTC cover fibers, yarns, fabrics, and household textile products, such as clothing and accessories, draperies, floor coverings, furnishings, and beddings. Under the Textile Act, a textile fiber product is misbranded and subject to fines and penalties if it is falsely or deceptively stamped, tagged, labeled, invoiced, or otherwise identified.

Complementary to the FiberTyping™ technology, SigNature® DNA markers allow farmers of natural fibers or producers of synthetic fibers to track specific batches of fiber through to finished textiles and apparel. In 2009, Applied DNA marked over 500,000 pounds of raw cotton fiber with its SigNature® DNA as part of a pilot study conducted in collaboration with one of America's largest cotton growers. SigNature® DNA was detected homogeneously throughout the various stages of cotton processing, before and after baling, right down to the single cotton fiber. The persistence and stability of the SigNature® DNA marker ensured that it was successfully authenticated.

Headquarters and Employees

Applied DNA, formerly Datalink Systems, Inc., was founded in 1983 and is headquartered in Stony Brook, New York. In 1998, the Company reincorporated in Nevada and, in November 2002, changed its name to Applied DNA Sciences, Inc. Effective December 17, 2008, the Company reincorporated from the State of Nevada to the State of Delaware. For the past four years, the Company has been under new management, including new staff, finance terms, and patents, severing ties with the Taiwanese predecessor company, which ceased business. The current management team is heavily invested. Dr. James A. Hayward, chairman, president, and chief executive officer (CEO), has a personal financial commitment to the Company totaling over $3 million in the form of a secured convertible Promissory Note and Warrants to purchase shares of the Company's Common Stock. In addition, Dr. Hayward is not planning to take a salary until the Company reaches breakeven.

Applied DNA currently has 13 full-time employees and two part-time employees, composed of two in management, eight in operations, four in sales and marketing, and one in investor relations. The Company has stated that it expects to increase its staffing dedicated to sales, product prototyping, manufacturing of SigNature® DNA markers, and forensic authentication services.

Growth Strategy

For the nine months ended June 30, 2010, Applied DNA generated over $430,000 in revenues with a cost of sales of $48,000. Comparatively, in the same nine-month period of fiscal 2009, the Company had revenues of $234,000 with a cost of sales of nearly $55,000. The increase in sales from the 2009 period to the 2010 period was primarily caused by a 50% increase in the number of Applied DNA's customers during 2010, as well as a transition from sales of BioActive Ingredients (a now discontinued platform of Applied DNA) to sales of authentication services and SigNature® DNA products. Going forward, Applied DNA intends to continue emphasizing the implementation and growth of its security- and authentication-related platforms—SigNature® DNA, Cashield™, DNANet™, RapiDNA™, and BioMaterial Genotyping™.

Applied DNA focuses on projects that provide the Company with the following advantages: (1) the potential to showcase and demonstrate its security platforms' effectiveness; (2) significant revenue opportunities in high-volume markets; (3) easy expansion across the specific industry or related markets; and (4) a short sales cycle. The Company's growth strategy relies on the following objectives:

- customizing and refining solutions to meet potential customers' needs;
- continuing to enhance the available detection technologies for authentication of SigNature® DNA markers;
- targeting potential high-volume markets; and
- pursuing strategic acquisitions and alliances.

Applied DNA seeks out high-volume vertical markets characterized by a vulnerability to counterfeiting, product diversion, piracy, and fraud. The target markets for which the Company is presently pursuing worldwide sales opportunities include those listed in Table 1.

Table 1
Applied DNA Sciences, Inc.
TARGET MARKETS

Cash-and-Valuables-in-Transit (CViT)	Pharmaceuticals	Fine Wine, Art, and Collectibles
Textile and Apparel Authentication	Consumer Products	Digital and Recording Media
Secure Documents	Defense/Homeland Security	

Source: Applied DNA Sciences, Inc.

Applied DNA believes that the exposure generated by each successful implementation of its technology is leading to shorter sales cycles for additional customers. According to the Company, customers are approaching Applied DNA fully vetted, interested in applying the security solutions to their particular situations, which entail varying levels of existing security technologies with which SigNature® DNA must be integrated. As a result, Applied DNA continues to customize its offerings to meet the needs of unique clients. To this end, the Company is constantly attempting to improve SigNature® DNA by testing the markers in different media (e.g., newly configured labels, inks, or packing elements) and new applications, as evidenced by Applied DNA's August 2010 launch of a new family of cash degradation inks, called Cashield™. Cashield™ is further profiled on page 32. For each project, Applied DNA strives to develop a secure and cost-effective system that can be easily configured and integrated with a potential customer's existing security technologies.

The Company's growth strategy also entails identifying new strategic alliances to expand and improve the use of its anti-counterfeiting solutions. Through these alliances, the Company not only expects to strengthen and complement its core technologies but also to improve its competitive positioning, penetrate new markets, and grow its customer base. An overview of the Company's key strategic agreements is provided on pages 10-12.

Strategic Agreements and Partnerships

Applied DNA identifies strategic alliance opportunities with industry sector leaders, industry organizations, and technology partners to expand and improve the use of its anti-counterfeiting solutions. Among others, the Company is developing relationships with original equipment manufacturers (OEMs) that can act as resellers of Applied DNA's products. OEMs provide an existing customer base, a virtual sales team, and perform product integration, leaving Applied DNA to supply only its DNA and authentication services. Management believes that this offers the shortest sales cycles, the lowest cost of sales, and the broadest market penetration.

Through its alliances, the Company expects to strengthen and complement its security platforms as well as to penetrate new markets and grow its customer base. Applied DNA is also focused on sub-licensing and distributing its technology to existing anti-counterfeit suppliers. An overview of some of the Company's key strategic agreements and partnerships, where information has been disclosed publicly, is provided below and on pages 11-12.

Loomis UK Ltd.

Since January 2008, Applied DNA has been engaged with Loomis, a cash-handling company, and Spinnaker International, a CViT box manufacturer. The Company provides SigNature® DNA for use in boxes, authentication, and expert witness reports related to the CViT market.

Banknote Watch

In July 2009, Applied DNA joined Banknote Watch, a national UK-based crime prevention partnership between the UK government, police, and manufacturers, installers, and users of cash staining systems. Banknote Watch aims to hinder criminals who profit from crimes and reduce the risk of commercial robbery by raising public awareness that "a stained note is probably a stolen note." Banknote Watch currently has a presence in the UK and South Africa. In a paper released in December 2009, Banknote Watch endorsed Applied DNA's markers as the technology of choice for CViT security solutions.

Printcolor Screen Ltd.

On May 30, 2007, the Company entered into a technology reseller agreement with Printcolor Screen Ltd., in which Applied DNA was granted the exclusive right to supply DNA markers to Printcolor. Printcolor was granted rights to affix SigNature® DNA markers onto its products for distribution to customers for an initial period of three years, automatically renewed for successive one-year periods unless terminated earlier. Most recently, the agreement was renewed during May 2010. Applied DNA expects to receive revenues based on purchase orders from Printcolor.

In addition, in September 2009, the Company entered into a Supply and Distribution Agreement with Printcolor for the commercial production of the AzSure® dye. The exclusive agreement has an initial term of five years. AzSure® and the entire Cashield™ family of security inks are further detailed on page 32.

Nissha Printing Co., Ltd.

On December 14, 2009, Applied DNA entered into a supply agreement with Nissha Printing Co., Ltd., an international printing company headquartered in Asia. Applied DNA agreed to supply its Authentication Marks, which Nissha planned to incorporate into a printing ink to protect its products from counterfeiting and fraud. Applied DNA is scheduled to receive an initial fee, annual fee, and a fee for each unique Authentication Mark purchased, with additional payments possible for the authentication process.

Safe Solution AB

On February 18, 2010, Applied DNA and Safe Solution AB, a Swedish company, announced a three-year contract for Safe Solution to market and sell SigNature® DNA and Cashield™ products to the Scandinavian market. Safe Solution plans to initially introduce the Company's technology in the cash and banking sectors, with eventual expansion to multiple other markets, such as domestic protection, insurance companies, cargo protection, and storage.

H.W. Sands Corp.

In July 2010, Applied DNA announced that it was supplying SigNature® DNA markers to H.W. Sands, a provider of research, development, and commercialization of custom and commercial dyes, chemicals, and corollary products. Under an exclusive agreement, the companies are marking custom poker chips and playing cards for Florida-based Palm Gaming International, an importer and manufacturer of these products. Applied DNA is integrating DNA markers with preproduction raw materials to protect gaming chips. Future extensions of this agreement could lead to the integration of DNA into other gaming products as well, such as playing cards and dice.

Supima® Cotton

On June 27, 2007, Applied DNA entered into a feasibility study agreement with Supima® to establish a method to authenticate and identify U.S.-produced Pima cotton fibers. The Company received payments from Supima® upon the signing of the agreement and in installments beginning on July 6, 2007, through the completion of a feasibility study in the first quarter 2008. The Company intends to launch authentication services to confirm Supima® and other extra long staple (Pima) cotton content of textile items, such as apparel and home fashion products. Applied DNA is expected to pay Supima® a percentage of any fees received for authentication services related to this project, as well as 50% of the aggregate amount of payments received from Supima® out of any fees received from providing authentication services.

Textile Centre of Excellence

On August 11, 2008, the Company entered into an agreement with Huddersfield and District Textile Training Company Limited to conduct a study demonstrating how the SigNature® DNA security platform can be used to authenticate textiles at all points of the supply chain through to the end user. In addition, this study integrated SigNature® DNA with existing manufacturing processes to produce threads, labels, and fabrics manufactured by Yorkshire-based companies. The Company has successfully completed Phase I of this study.

Subsequently, in June 2010, Applied DNA announced the launch of a textile-based SigNature® DNA Anti-Counterfeiting Program in the UK, where the Company is successfully customizing "DNA Suits." As part of the DNA Anti-Counterfeiting Program, the Company has received an initial order for approximately $50,000 from the Textile Centre of Excellence as part of its participation in the multi-year contract funded by the European Regional Development Fund and Yorkshire Forward. The UK government has committed $1.5 million to the program over three years.

European Luxury Brand

On January 7, 2010, Applied DNA announced that it entered into an exclusive supply agreement with a renowned luxury brand with global distribution, headquartered in Europe. In the agreement, the Company committed to supply proprietary DNA Authentication Marks exclusively for the brand-owner's customers. Applied DNA is scheduled to receive a fee for each unique Authentication Mark purchased, with additional fees paid to the Company for authentications. In exchange for exclusive rights in the specified field, the brand-owner has agreed to minimum-volume purchases for each year of the agreement, which has an initial term of five years. The initial year under this contract established feasibility and allowed the Company to prepare samples and develop marketing plans. These steps have now been successfully completed and the initial product has been developed, prepared, marketed, and distributed.

Applied DNA has already received purchase orders for multiple botanical DNA Authentication codes, which have been filled, and repeat orders have been shipped back to the client. The Company expects to receive approximately $1 million in orders during 2011, and places the potential total value of this contract at over $8 million for supplying proprietary botanical DNA Authentication codes custom-made for the brand-owner's customers, in order to maintain exclusivity on the agreement in the specified field.

Bilcare Technologies

In June 2010, Applied DNA and Bilcare (a provider of nonClonableID™ solutions using nanotechnology to authenticate products as they move through supply chain) entered into an agreement for a new security system, RapiDNA™, enabling real-time, portable, forensic authentication. The companies intend to market integrated versions of their technologies to provide a novel, multi-layered security for brand protection, anti-counterfeiting, and logistic and provenance control.

High-Volume Customers

For most customers, small quantities of SigNature® DNA are capable of marking large numbers of commercial items, such as labels used in consumer products. As well, the Company is able to meet higher-volume requests from customers whose requirements are many orders of magnitude larger than Applied DNA's routine projects. For example, in 2009, the Company marked over 500,000 pounds of raw cotton fiber for a manufacturer whose annual production exceeds 420 million pounds per year.

Intellectual Property

Applied DNA's intellectual property portfolio contains 14 patents, 13 provisional patents, 8 pending patents, 6 registered trademarks, and 8 pending trademarks. Table 2 (continued on pages 14 and 15) provides a list of the Company's patents and trademarks both filed and pending.

Table 2
Applied DNA Sciences, Inc.
INTELLECTUAL PROPERTY SUMMARY

Issued Patents				
Patent Name	Patent No.	Assignee of Record	Date Issued	Jurisdiction
Nucleic Acid as Marker for Product Anticounterfeiting and Identification	(570982/196181) 89108443	APDN (B.V.I.) Inc.	1/11/2004 – 3/16/2020 3/17/2000	Taiwan
Method of using ribonucleic acid as marker for product anti-counterfeit labeling	CN1324955 00107580.2	APDN (B.V.I.) Inc.	2/2/2005	China
EppenLocker (A Leakage Prevention Apparatus of Microcentrifuge)	529633 203050	APDN Inc.	4/21/2003 – 3/9/2012 3/10/2000	Taiwan
Multiple Tube Structure for Multiple PCR in a Closed Container	519130 205554	APDN Inc.	1/21/2003 – 6/19/2012 6/20/2000	Taiwan
A Device for Multiple Polymerase Chain Reactions In a Closed Container and a Method of Using Thereof	231311	APDN Inc.	4/21/2005 – 6/12/2020 6/12/2000	Taiwan
A Method of marking solid or liquid substances with nucleic acid for anti-counterfeiting and authentication	7115301 (10/748,412)	APDN (B.V.I.) Inc.	10/3/2006	U.S.
A novel nucleic acid based steganography system and applications thereof	MY 135976-A	APDN (B.V.I.) Inc.	7/31/2008	Malaysia
—	KR 20050025256 679484 (61387/2004)	APDN (B.V.I.) Inc.	3/14/2005 8/3/2005	Korea
Method for Mixing Ribonucleic Acid in Water Insoluble Media and Application Thereof	JP2004159502 3930794	Rixflex Holding Ltd	6/10/2004 8/31/2002	Japan
Method for Mixing Ribonucleic Acid in Water Insoluble Media and Application Thereof	EP1394544	APDN (B.V.I.) Inc.	3/3/2004	EU
Method of dissolving nucleic acid in water insoluble medium and its application	CN100349315C 03155949.2	APDN (B.V.I.) Inc.	11/7/2007 (8/27/2003)	China
A Nucleic Acid Based Steganography System and Application thereof	EP1568783	APDN (B.V.I.) Inc.	8/31/2005	EU
A Nucleic Acid Based Steganography System and Application Thereof	DE 602004007474.8	APDN (B.V.I.) Inc.	4/24/2008	Germany
System and Method for authenticating multiple components associated with a particular product	WO2006127558 A2	APDN	11/30/2006	EU

Source: Applied DNA Sciences, Inc.

Table 2 (Continued)
Applied DNA Sciences, Inc.
INTELLECTUAL PROPERTY SUMMARY

Pending Patents				
Patent Name	Publication No.	Filed in Name of	Date Published	Jurisdiction
Method for Mixing Nucleic Acid in Water Insoluble Media and Application Thereof	20040058374 (10/645,602)	Rixflex Holdings Ltd	3/25/2004	U.S.
Novel nucleic acid based steganography system and application thereof	20050059059 (10/909,431)	Rixflex Holdings Ltd	3/17/2005	U.S.
Cryptic method of secret information carried in DNA molecule and its deencryption method	200506064 (921221490)	APDN (B.V.I.) Inc.	8/6/2003	Taiwan
A novel nucleic acid based steganography system and applications thereof	1-2004-00742	APDN (B.V.I.) Inc.	8/4/2004	Vietnam
A novel nucleic acid based steganography system and applications thereof	092819	APDN (B.V.I.) Inc. pending	8/4/2004	Thailand
A Method for encrypting and decrypting specific message by using nucleic acid molecules	JP2005055900 2004-225987	Rixflex Holdings Ltd	3/3/2005	Japan
	P-00200400374	APDN (B.V.I.) Inc.	8/4/2004	Indonesia
Methods and Systems for the Generation of Plurality of Security Markers and the Detection Thereof	12/690,799	APDN (B.V.I.) Inc.	None	U.S.

Published Patent Applications				
Patent Name	Patent Appl. No.	Assignee of Record	Publication Date	Jurisdiction
System and Method for Marking Textiles with Nucleic Acids	20050112610 (10/825,968)	APDN (B.V.I.) Inc.	5/26/2005	U.S.
System and Method for Authenticating Multiple Components Associated with a Particular Good	20070048761 (11/437,265)	APDN (B.V.I.) Inc.	3/1/2007	U.S.
System and Method for Secure Document Printing and Detection	20090042191 (11/954,044)	APDN (B.V.I.) Inc.	2/12/2009	U.S.
System and Method for Authenticating Tablets	20090075261 (11/954,055)	APDN (B.V.I.) Inc.	3/19/2009	U.S.
System and Method for Authenticating Sports Identification Goods	20080293052 (11/954,051)	APDN (B.V.I.) Inc.	11/27/2008	U.S.
Optical Reporter Compositions	20080299667 (11/954,030)	APDN (B.V.I.) Inc.	12/4/2008	U.S.
Methods for Covalent Linking of Optical Reporters	20080312427 (11/954,009)	APDN (B.V.I.) Inc.	12/12/2008	U.S.
Method for Authenticating Articles with Optical Reporters	20080299559 (11/954,038)	APDN (B.V.I.) Inc.	12/4/2008	U.S.

Source: Applied DNA Sciences, Inc.

Table 2 (Continued)
Applied DNA Sciences, Inc.
INTELLECTUAL PROPERTY SUMMARY

Published Patent Applications				
Patent Name	Patent Appl. No.	Assignee of Record	Publication Date	Jurisdiction
Methods for Genetic Analysis of Textiles made of *Gossypium Barbadense* and *Gossypium Hirsutum* Cotton	*Published by WIPO* WO 2010/056642* 12/269,737	APDN (B.V.I.) Inc.	*05/20/2010*	U.S.
Methods for Genetic Analysis of Textiles made of *Gossypium Barbadense* and *Gossypium Hirsutum* Cotton	*Published by WIPO WO 2010/056642* PCT/US09/63814	APDN (B.V.I.) Inc.	5/20/2010	WIPO
Methods for Genotyping Mature Cotton Fibers and Textiles	*Published by WIPO WO 2010/056645* 12/269,757	APDN (B.V.I.) Inc.	*Published by WIPO 05/20/2010*	U.S.
Methods for Genotyping Mature Cotton Fibers and Textiles	*Published by WIPO WO 2010/056645* PCT/US09/63818	APDN (B.V.I.) Inc.	5/20/2010	WIPO
Incorporating Water Soluble Security Markers into Cyanoacrylate Solutions	20090286250 (12/465,450)	APDN (B.V.I.) Inc.	11/19/2009	U.S.

** WIPO = World Intellectual Property Organization*

Trademarks				
Registered	Trademark Reg. No.	Assignee of Record	Registered	Jurisdiction
APPLIED DNA	3489209	APDN	8/19/2008	U.S.
SIGNATURE	3482366	APDN	8/5/2008	U.S.
SIGNATURE	005419031	APDN	10/26/2006	EU
SIGNATURE	1143760	APDN	10/27/2006	Australia
AZSURE	3698729	APDN	10/20/2009	U.S.
AZSURE	1022396	APDN	1109/2009	EU

Pending	Trademark Reg. No.	Assignee of Record	Filed	Jurisdiction
FIBERTYPING	77/488531	APDN	6/2/2008	U.S.
PIMATYPING	77/488647	APDN	6/2/2008	U.S.
BIOMATERIAL GENOTYPING	77/771522	APDN	6/30/2009	U.S.
FIBERTYPING	77/728499	APDN	5/4/2009	U.S.
PIMATYPING	77/728511	APDN	5/4/2009	U.S.
RAPIDNA	85/070,474	APDN	6/24/2010	U.S.
RAPIDNA	A0020872	APDN	8/12/2010	International
SMARTDNA	85/105,993	APDN	8/12/2010	U.S.

Source: Applied DNA Sciences, Inc.

Company Leadership

Management

Table 3 summarizes Applied DNA's key management, followed by detailed biographies. The current management team is heavily invested in the Company. For example, Dr. James A. Hayward, chairman, president, and CEO (biography below), has an extensive personal financial commitment to the Company. To date, Dr. Hayward has provided over $3 million to Applied DNA. Additionally, Applied DNA recently expanded its sales force to include veteran industry and government consultants responsible for driving sales and strategic business initiatives.

Table 3
Applied DNA Sciences, Inc.
MANAGEMENT

James A. Hayward, Ph.D., Sc.D.	Chairman of the Board, President, and Chief Executive Officer
Kurt Jensen, M.Sc.	Chief Financial Officer
Ming-Hwa Benjamin Liang, M.S., Ph.D., LL.M.	Secretary and Strategic Technology Development Officer

Source: Applied DNA Sciences, Inc.

James A. Hayward, Ph.D., Sc.D., Chairman of the Board, President, and Chief Executive Officer

Dr. James A. Hayward is chairman, president, and CEO. He has over 20 years of experience in the biotechnology, pharmaceutical, life science, and consumer product industries. He was one of the founding principals and research director of Europe's first liposome company, Biocompatibles Ltd. From 1984 to 1989, he was responsible for product development at Esteé Lauder Companies, Inc. (EL-NYSE), where he served as director of product development worldwide. Between 1990 and 2004, Dr. Hayward was the chairman, president, and CEO of The Collaborative Group, Ltd., a provider of products and services to the biotechnology, pharmaceutical, and consumer product industries based in Stony Brook, New York. The Collaborative BioAlliance, Inc. was sold to the Dow Chemical Company (DOW-NYSE) in 2000, and Collaborative Laboratories Inc. was sold to Engelhard (now BASF SE) in 2004. Since 2000, Dr. Hayward has been a general partner of Double D Venture Fund, a venture capital firm based in New York, New York. Dr. Hayward received a doctorate in molecular biology from State University of New York (SUNY) at Stony Brook. He received a Bachelor's degree in biology and chemistry from SUNY at Oneonta in 1976, a Ph.D. in molecular biology from SUNY at Stony Brook in 1983, and an honorary doctor of science from Stony Brook in 2000. He has served on the Boards of the Council of Biotechnology, the Long Island Association, the Stony Brook Foundation, the Research Foundation of the State of New York, the New York Biotechnology Association, and the Long Island Life Sciences Initiative. He currently serves on the Boards of the Ward Melville Heritage Foundation and Softheon, Inc.

Kurt Jensen, M.Sc., Chief Financial Officer

Mr. Kurt Jensen is the chief financial officer. He has more than 20 years of experience in finance and accounting, and was previously employed by Point of Woods Homes. Mr. Jensen received an M.Sc. in economics and business administration from the Copenhagen Business School in 1983.

Ming-Hwa Benjamin Liang, M.S., Ph.D., LL.M., Secretary and Strategic Technology Development Officer

Dr. Ming-Hwa Benjamin Liang is corporate secretary and strategic technology development officer. Between May 1999 and September 2005, Dr. Liang was the director of research and development at Biowell Technology Inc. Dr. Liang received a B.S. in bio-agriculture from Colorado State University in 1989, an M.S. in horticulture from the University of Missouri at Columbia in 1991, a Ph.D. in plant science from the University of Missouri at Columbia in 1997, and a LL.M. in intellectual property law from Shih Hsin University, Taiwan, in 2004.

Independent Consultants

Joseph L. Magno

Mr. Magno brings extensive government experience and is working with Applied DNA to initiate strategies to effectively penetrate state and federal government organizations. He has successfully founded and led a number of technologically driven companies, with his most recent being acquired and sold to General Electric Co. (GE-NYSE) in 1996. Earlier in his career, Mr. Magno held positions in sales and management in several large multinational technology companies. While serving in government, he advised both the New York State Governor and Legislative Leadership on economic development, research, and education. Mr. Magno has served on boards including NYSTAR, University at Albany Bioscience Development Center, NYS Software Network, and the NYS Institute for Entrepreneurship, and currently serves on the Watervliet Arsenal Partnership Board and the Albany Science and Technology Law Center Board of Advisors.

Warren M. Pearlson

Mr. Pearlson is a 25-year veteran in the pharmaceutical industry, including in positions of increasing responsibility at Astra Pharmaceuticals, Warner Lambert/Parke-Davis, and most recently with Pfizer, Inc. ([PFE-NYSE] which acquired Warner Lambert). Applied DNA believes that his extensive industry network of contacts and strategic management skills can help establish a client base positively impacted by DNA technology.

Edward Straw

Vice Admiral Straw (retired) had a distinguished career in the U.S. Navy where he held various leadership positions before becoming director and CEO of the Defense Department's Defense Logistics Agency (DLA), the largest military logistics command supporting the U.S. Armed Forces (Army, Navy, Air Force, and Marines). Vice Admiral Straw has a history of developing and managing large and complex global logistics/supply chain operations in the military and private sector. Throughout his career, safeguarding against counterfeit products has been a common goal, but one for which there has not been a definitive solution. Vice Admiral Straw is an executive vice president with PRTM Management Consultants and has held many senior executive-level positions, including president of global operations for the Estee Lauder Companies Inc. (EL-NYSE), senior vice president of global manufacturing and supply chain management at Compaq Computer Corp. (acquired by Hewlett-Packard Co. [HPQ-NYSE]), and president of Ryder Integrated Logistics, Inc., then a provider of supply chain services in North America. Vice Admiral Straw currently serves on the Board of Directors for the MeadWestvaco Corp., Panther Expedited Services, Inc., and Performance Equity Management, LLC, and is the chairman of the Board of Odyssey Logistics and Technology Corp. and Document Capture Technologies, Inc.

Board of Directors

Applied DNA's Board of Directors oversees the conduct of and supervises the Company's management. Table 4 provides a summary of Board members, followed by biographies on page 18.

Table 4
Applied DNA Sciences, Inc.
BOARD OF DIRECTORS

James A. Hayward, Ph.D., Sc.D.	Chairman of the Board, President, and Chief Executive Officer
Yacov Shamash, Ph.D.	Director
Sanford R. Simon, Ph.D.	Director
Ming-Hwa Benjamin Liang, M.S., Ph.D., LL.M.	Secretary and Strategic Technology Development Officer

Source: Applied DNA Sciences, Inc.

James A. Hayward, Ph.D., Sc.D., Chairman of the Board, President, and Chief Executive Officer

Biography on page 16.

Yacov Shamash, Ph.D., Director

Dr. Shamash has been a member of the Board of Directors since March 17, 2006. He is vice president for economic development at SUNY at Stony Brook. Since 1992, he has been the dean of the College of Engineering and Applied Sciences at the university, and founder of the New York State Center for Excellence in Wireless Technologies (CEWIT) and the Advanced Energy Research & Technology Center (AERTC) 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 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. (KTCC-NASDAQ), American Medical Alert Corp. (AMAC-NASDAQ), and Softheon Corporation.

Sanford R. Simon, Ph.D., Director

Dr. 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.

Ming-Hwa Benjamin Liang, M.S., Ph.D., LL.M., Secretary and Strategic Technology Development Officer

Biography on page 16.

Core Story

Applied DNA Sciences, Inc. ("Applied DNA" or "the Company") is a provider of deoxyribonucleic acid (DNA)-based security and authentication solutions to address global counterfeiting and diversion operations. DNA is a form of forensic evidence trusted by police and recognized by courts around the world. Used by forensic laboratories, including the U.S. Federal Bureau of Investigation (FBI), DNA authentication is absolute in character, indicating that the margin of error is close to zero.

As represented in Figure 1, the Company markets several revenue-generating, anti-counterfeiting security platforms to protect products, brands, and intellectual property from theft and fraud across a wide range of industries, as well as to provide a forensic chain of evidence that can help prosecute perpetrators. SigNature® DNA uses extrinsic, botanical (plant-derived) DNA segments with novel characteristics and sequences that are customized, encrypted, and embedded into products as unique and traceable identification systems. The proprietary line of SigNature® DNA-marked products is accompanied by monitoring and authentication support. BioMaterial Genotyping™ offers a means for determining the authenticity of the original source of natural materials used in finished products by detecting and identifying their genomic DNA.

Figure 1
Applied DNA Sciences, Inc.
TECHNOLOGY PLATFORMS

Source: Applied DNA Sciences, Inc.

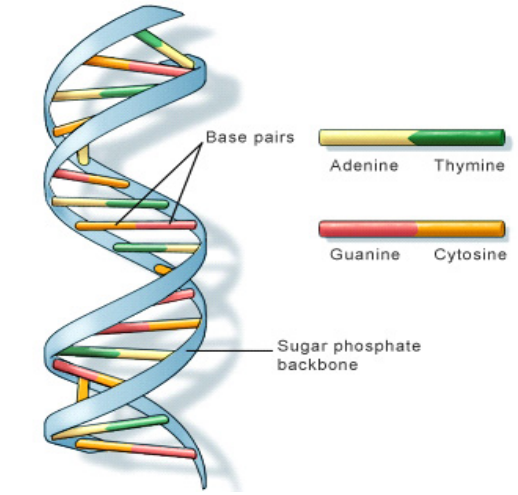
Cashield™ is a family of cash degradation inks that are composed of bright colors characterized by high penetration and wash resistance. These dyes are co-marketed to governments and industry to protect bank notes and financial instruments. As well, DNANet™ entails recently developed tactical DNA products for law enforcement (e.g., DNA-marked sprays and liquids). RapiDNA™ enhances supply chain management by using a DNA **Magneto-Optical** marking system to deliver secure, machine-readable, forensic protection, which can be integrated with brand-owner databases for comprehensive supply chain management and enhanced sales data collection.

Applied DNA's platforms are used in an array of industries, including to identify original luxury brand products, fine wines, textiles and apparel, microchips, pharmaceuticals, and government documents, as well as to mark cash-and-valuables-in-transit (CViT). This diversity of operation provides a range of revenue sources that Applied DNA believes minimize revenue risk concentration, translating into a stable revenue source and profit margin. To date, more than 600 million products have employed the Company's "green" botanical DNA technology.

The Science Behind Applied DNA's Technology

DNA is the physiological building block of all living organisms. The main role of DNA molecules is the long-term storage of genetic information, which provides a passageway of information from one generation to the next. Every living organism has a unique DNA code that determines the character and composition of its cells. DNA as a form of forensic evidence is trusted by police and recognized by courts globally. Used by forensic laboratories worldwide, including the FBI, DNA authentication is absolute. When used to identify individuals or to establish paternity, the error frequency for false positives is less than one in a trillion.

Figure 2
DNA STRUCTURE



Source: the U.S. National Library of Medicine.

Structurally, DNA of multi-cellular organisms consists of two long polymer strands of simple units called **nucleotides**. Each nucleotide is composed of a base, a sugar, and a phosphate. Nucleotides are arranged in two strands that form a spiral called a double helix. The structure of the double helix resembles a ladder, with the base pairs forming the ladder's rungs and the sugar and phosphate forming the vertical sidepieces or backbone of the ladder, as depicted in Figure 2. There are four bases in DNA: adenine (A), guanine (G), cytosine (C), and thymine (T).

The order (or sequence) of these bases determines what biological instructions are contained in the gene, providing the information needed to build and maintain an organism. This sequence is normally represented by using the initial of the base (e.g., A for adenine, G for guanine, and so on), generating a lineal code. For example, the sequence ATCGTT might instruct for blue eyes, while ATCGCT might instruct for brown eyes (Source: National Human Genome Research Institute).

The cells of all plants and animals contain DNA in the same double helix shape and are composed of the same four base compounds. The sequence of the base pairs and the information they encode determines the characteristics, shape, and function of the organism. As scientists continue to learn about the unique structure of DNA, they are exploring innovative techniques to harness the physiological power of the substance and apply it to commercial endeavors.

In particular, researchers at Applied DNA have determined that the properties of DNA (chiefly, that it is absolute and thus can be depended upon) are beneficial in multiple security-related applications. DNA authentication provides a high degree of reliability with false positives occurring at extremely rare rates (less than one in a trillion). Moreover, the DNA sequence of an individual plant source is unique. This uniqueness and complexity not only prevents DNA from being replicated or copied but also makes it highly adaptable.

DNA Authentication by PCR and CE Analysis

Applied DNA's SigNature® DNA platform uses **Polymerase Chain Reaction (PCR)** to authenticate genuine items marked with a unique DNA sequence. PCR is a technique employed in medical, biological, and forensic laboratories for a variety of purposes. It is used to amplify specific regions of a DNA strand (or DNA target). This can be a single gene, a part of a gene, or a non-coding sequence. When used to amplify single or multiple copies of a piece of DNA across several orders of magnitude, PCR enables the generation of millions of copies of a particular DNA sequence.

Applied DNA has developed proprietary methods composed of multiplexing primers, which are key components that allow for targeted and repeated amplification. With properly designed primers, PCR can amplify very specific DNA sequence fragments, even when there is only one copy of DNA. This is often critical for forensic analysis, when only a trace amount of DNA is available as evidence. In the case of CViT, PCR enabled the authentication of SigNature® DNA-marked, ink-stained banknotes and other evidence recovered by the UK Police even when the stained banknotes had been extensively washed. PCR may also be utilized to amplify genomic DNA from cotton textiles, forming the basis for the FiberTyping™ test that can authenticate anything from raw cotton to finished cotton apparel. SigNature® DNA is described on pages 25-37, and FiberTyping™ is addressed on pages 39-41.

In addition to PCR amplification, Applied DNA also uses **capillary electrophoresis (CE)** for forensic authentication. The polymorphic (occurring in several distinct forms) results can be analyzed quantitatively by extrapolating DNA fragment size precisely using an internal size standard. The fluorescently labeled DNA fragments are separated by the gel within the capillary tube and excited by a powerful **Argon laser** for signal detection. The detection point of each DNA fragment is recorded and compared against an internal size standard for size determination. The measurements and analyses are primarily performed with specialized software. For DNA sequence analysis, DNA fragments typically go through a sequencing reaction and sequences can then be analyzed using the same CE machine.

Global Need for Improved Security and Authentication Platforms

Via its SigNature® DNA, Cashield™, DNANet™, RapiDNA™, and BioMaterial Genotyping™ platforms, Applied DNA is presently targeting its resources toward enhancing operations in the cash-and-valuables-in-transit (CViT) industry as well as the general anti-counterfeiting industry.

CASH-AND-VALUABLES-IN-TRANSIT (CViT)

Applied DNA is addressing unmet needs in the UK for improved security in the CViT industry. The UK represents approximately 75% of all CViT robberies globally, with over £17 million (over $26 million) stolen in more than 1,000 CViT crimes during 2009 alone.

Over £500 billion is transported in the UK each year, with an estimated £1.4 billion to £2 billion transported per day using a fleet of 3,500 vehicles. These numbers make CViT an attractive target for criminals and, as a result, the industry invests in excess of £100 million per year in security equipment and devices. According to the London Metropolitan Police, the incidence of CViT-based crime in London has increased over 170% since 2006, with 1,000 attacks against CViT couriers in the UK in 2008 (Source: British Security Industry Association 2009). The Company believes that demand for similar services in Europe and South Africa is significant. From a financial standpoint, the CViT initiative provides the Company with several forms of revenue: (1) an initial fee for the required DNA markers; (2) an annual licensing fee; and (3) an authentication mark fee. A predetermined number of authentications are included in the annual fee with additional authentications requiring an additional fee.

Currently, smoke or liquid dyes are used to permanently mark stolen cash. The dye is placed inside cash transport devices and when the transport box is compromised, illegally accessed, or moved outside a predetermined location, the security device discharges the liquid dye onto the currency. The dye causes the currency to be easily recognized as stolen in a process known as cash degradation. While dye-degraded currency is removed from circulation, this process cannot provide information regarding the original owner of the currency, making repatriation highly unlikely. This is why in the UK, the use of DNA taggants can help to address this problem.

As addressed on pages 32-33, the Company's SigNature® DNA platform is currently employed for banks and institutions involved in the CViT business, such as cash transport and storage as well as ATM operations. The technology has helped to successfully prosecute 35 CViT cases from multiple UK police departments, with a 100% success rate thus far in confirming dye-stained stolen goods.

ANTI-COUNTERFEITING INDUSTRY

Counterfeiting has rapidly become one of the fastest growing pecuniary crimes, threatening jobs and businesses and endangering public health and safety. The FBI has called counterfeiting "the crime of the 21st century," with Fortune 500 companies reportedly spending approximately $1.5 billion per year in an attempt to combat counterfeiting activities and protect brand names and trademarks (Source: Center for Threat Awareness 2008). Efforts to improve security against counterfeiting are also targeting other fraudulent practices, including product diversion, piracy, forgery, identity theft, and unauthorized intrusion into physical locations and databases. Applied DNA's security platforms seek to protect manufacturers, suppliers, and customers from all of these practices.

The size and scope of product counterfeiting has skyrocketed in recent years, as depicted in Table 5 (page 23), which highlights the breadth of industries affected by fraud. Estimates from the World Customs Organization and Interpol have valued annual global trade in illegitimate goods at roughly $650 billion (as of 2007), which is forecast to reach $1.2 trillion by 2014. Ultimately, the transfer of illegitimate goods may represent between 5% and 7% of all world trade. Moreover, counterfeit merchandise is estimated to cost the U.S. economy between $200 billion to $250 billion per year and roughly 750,000 jobs, with U.S. companies suffering as much as $9 billion in trade losses due to international copyright piracy (Source: the International AntiCounterfeiting Coalition [IACC]). In the U.S., movie, music, software, and other copyright-based industries have calculated that they lose more than $16 billion in sales each year from global piracy (Source: Reuters, August 20, 2010).

Table 5
ESTIMATED VALUES OF COUNTERFEIT OR OTHERWISE FRAUDULENT PRODUCTS ACROSS A SELECTION OF INDUSTRIES

- $34 billion of software products
- $24 billion of apparel and footwear
- $4 billion of cigarettes and tobacco products
- $32 billion of pharmaceuticals
- $18 million in wine
- $500 million of sports equipment
- $35 million of electronic equipment and supplies
- $3 billion in cosmetics
- $12 billion in automobile parts
- $1 billion of food and alcohol products
- $1 billion in jewelry and watches
- $10 million of computer equipment and supplies
- $100 billion of other goods

Source: Applied DNA Sciences, Inc.

Going forward, the market for new anti-counterfeiting technologies, such as those marketed by Applied DNA, could surpass $82 billion by 2015 as brand owners increasingly invest in multilayered brand protection using **overt**, covert, and forensic technologies (Source: Global Industry Analysts' *Anti-Counterfeit Packaging: a Global Business Report* [July 2010]).

Factors Fueling Growth of Counterfeiting

Ease of access to the Internet and the use of high-level computerized printing make it easier to produce and distribute counterfeit goods, facilitating mass production and new distribution channels for fake products. The range of counterfeit products is broad, with counterfeiters expanding their activities beyond luxury goods into other areas, such as cosmetics, medicines, and aircraft parts—which creates health and safety risks due to the substandard counterfeit products. Specifically, the apparel, pharmaceutical, and automobile industries have been hard hit by counterfeiters. In addition, currency, high-value documents, and proprietary products are particularly hindered by counterfeiting and forgery efforts, which threaten their intrinsic value. Importantly, as electronics are increasingly counterfeited as well, purchasers of substandard electronics are subjected to serious safety and efficiency risks.

For example, as part of a market for counterfeit electronics estimated at up to $10 billion, U.S. Customs officials seized 5.6 million bogus microchips from November 2007 through May 2010. These microchips, which have been sold to the U.S. military among other entities, perform key roles in phone links, banking networks, electronic grids, and nuclear power plants. During 2008, the U.S. Commerce Department identified over 9,300 incidents where the military and its suppliers encountered counterfeit electronics, up from 3,800 cases in 2005 (Source: Homeland Security Newswire, September 9, 2010). Applied DNA has recently developed a botanical DNA-based technology to authenticate microelectronics.

Major factors contributing to the growth of fake merchandise are summarized below and on page 24.

- *The trend toward manufacturing in low-cost emerging markets has eased control over manufacture and distribution.* The preeminence of China and East Asia as low-cost manufacturing sites has also made them leading sources of counterfeit goods. China in particular has become a major creator of **hologram** replication, where low-quality holograms are placed on the packages of fake goods to deceive the consumer into believing that the item is genuine. In 2009, China accounted for nearly 65% of all counterfeit goods seized by EU customs (Source: *PCWorld*, September 8, 2010).

- *The emergence of inexpensive, high-quality copiers and scanners.* Technological advances in digital scanning, copying, and desktop publishing have put counterfeiting within the grasp of anyone with a computer or printer. From currency, stock certificates, drivers' licenses, and passports, document forgery no longer exists specifically within the realm of organized crime. Even overt security features, such as watermarks, enlarged off-center portraits, and **micro-printing**, are being replicated. A prime example of this is the proliferation of currency forgery. The U.S. government has responded with two rounds of changes to incorporate over 20 new security features on U.S. currency.

- *Counterfeiting and document forgery have become a main source of funding for terrorist groups and criminal organizations.* The global center of terrorist counterfeiting is the Middle East, where groups such as Hezbollah engage in state-sponsored counterfeiting of passports, drivers' licenses, and currency. Due to their significant resources, these organizations bypass so-called "desktop counterfeiting" by purchasing the actual **Intaglio** printing presses and security paper used to print major currencies.

- *Other aspects.* Additional developments that have contributed to the increase in counterfeiting operations include the following: (1) back door manufacturing, where the original equipment manufacturer (OEM) performs authorized manufacturing but double shifts after-hours to produce non-licensed merchandise; (2) improvements in technology and skills that allow the quality and look of counterfeits to appear similar to authentic products; and (3) increasing profitability of counterfeiting, which attracts more participants as counterfeiting is a profit-driven operation.

SigNature® DNA

SigNature® DNA is a security platform that capitalizes on botanical DNA in the manufacture of customized, encrypted DNA markers. These markers are applied to tangible goods as a means of identifying and authenticating original products in an effort to combat widespread counterfeiting and fraud. The SigNature® DNA technology entails taking DNA from the cells of plants and arranging it to create a group of specific DNA codes or sequences, which form a unique and traceable identification system.

CREATING, EMBEDDING, AND DETECTING THE DNA MARK

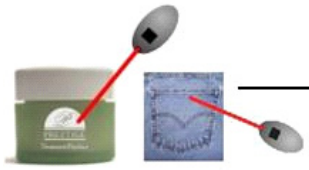
Figure 3 summarizes the SigNature® DNA solution, which is detailed following the Figure. Applied DNA's novel process consists of three steps: (1) creating and encapsulating an encrypted DNA segment or marker; (2) applying the marker to a product or material; and (3) detecting the presence of and authenticating the specific DNA marker.

Figure 3
Applied DNA Sciences, Inc.
SIGNATURE® DNA PROCESS

SigNature® DNA Marker Embedding

Marker Creation and Encapsulation	Marker Application	
	 	 
SigNature® DNA marker with a unique encrypted code	Examples: Ink/label with embedded DNA and thread or a woven label with embedded DNA	Package and product now contain DNA ink, or the garment or apparel item now contain DNA thread or a DNA woven label

DNA Detection and Authentication

	 	 
(Level 1) Instant screen for presence of SigNature® DNA	DNA analysis confirms presence of SigNature® DNA marker through a 1-3 hour full analysis using a CE DNA sequencer (Level 2)	Final outcome: Genuine product or apparel

Sources: Applied DNA Sciences, Inc. and Crystal Research Associates, LLC.

Creation and Encapsulation of SigNature® DNA Markers

Using a patent-pending encryption system, Applied DNA isolates and fragments botanical DNA strands and reconstitutes these into unique DNA segments for which the sequences are known only to the Company. Applied DNA's patented encapsulation system applies a protective coating to the encrypted segment, thereby creating a SigNature® DNA marker that is resistant to heat, organic solvents, chemicals, and ultraviolet (UV) radiation, as summarized in Table 6 (page 26). This proprietary process protects against manufacturing and natural elements, giving durability and long-term shelf life to the authentication solution. Applied DNA believes that this method of assembly improves upon other DNA technologies.

Table 6
Applied DNA Sciences, Inc.
STABILITY OF SIGNATURE® DNA

Test	Test Specifics	Results
UV Energy	Equivalent to more than 350 years of UV energy accumulation in Denver	Stable
X-ray	4 times the X-ray exposure by scanning machine in an airport	Stable
γ-ray	30 kGy (kilo-Gray) radiation exposure by γ-ray sterilization machine	Stable
pH-Thermal	Exposed to pH of 1 to 14 overnight, higher than 250 degrees celsius for four hours	Stable

Source: Applied DNA Sciences, Inc.

The key to ensuring that each client's SigNature® DNA marker is unique is the individual DNA code or sequence isolated from a botanical source that is developed for each customer. A SigNature® DNA mark may contain a single unique DNA sequence or it may contain a combinatorial array of unique DNA sequences. With virtually unlimited DNA sequences and combinations, each customer can have a unique and identifiable DNA marker. The creation and encapsulation process of SigNature® DNA markers is depicted in Figure 4 (continued on page 27).

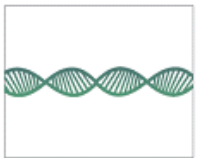
Figure 4
Applied DNA Sciences, Inc.
CORE STEPS OF CREATING A SIGNATURE® DNA MARKER

(1)	(2)	(3)
		
Source	Extraction	Purification

(1) *Source:* Several selected plant species, apart from well-studied plants, are used as source materials for Applied DNA's patented SigNature® DNA markers.

(2) *Extraction:* Plant materials are then processed together for genomic DNA extraction. Plant cells are disrupted to release genomic DNA, which is then separated from insoluble plant debris.

(3) *Purification:* Crude extracts of plant DNA are then processed to remove proteins and various contaminants to obtain DNA with higher purities.

(4)	(5)	(6a and 6b)
		
Digestion	Scramble	Assembly and Stabilization

(4) *Digestion:* In order to rearrange plant genomic DNA for unique sequences, purified plant genomic DNA is digested with enzymes to obtain DNA segments with various lengths.

(5) *Scramble:* DNA with various lengths are mixed together to create a soup of length polymorphic DNA.

(6a) *Assembly:* From that soup of length polymorphic DNA, assembly of unique DNA sequences is performed by ligating digested DNA fragments together, which undergo selection processes for DNA fragments with proper sizes.

(6b) *Stabilization:* Assembled unique sequence DNA fragments are stabilized through patented methodology to create stable DNA that can last over several hundred years.

Source: Applied DNA Sciences, Inc.

Figure 4 (Continued)
Applied DNA Sciences, Inc.
CORE STEPS OF CREATING A SIGNATURE® DNA MARKER

(7)	(8)	(9)
		
Replication	Concentration	Application

(7) *Replication:* Although the Company's DNA is unique and stabilized, it can be multiplied in huge quantities in a relatively short period of time by using well-known molecular biology techniques.

(8) *Concentration:* A DNA concentrate is created and catalogued prior to application.

(9) *Application:* The Company's SigNature® DNA marker is unique and stable and has forensic qualities that are not believed to be achievable with other security markers. SigNature® DNA has multiple uses, such as for security printing, CViT, and identity/authenticity protection.

Source: Applied DNA Sciences, Inc.

SigNature® DNA Embedding

Once developed, SigNature® DNA markers are applied to products. The embedding technology, which is the basis for a large number of patents, provides Applied DNA with the means to mark commercial products. The key to the technology relies on Applied DNA's ability to integrate markers directly into products or indirectly onto various carriers and media, such as special inks, dyes, paint, glue, polymers, and textile treatments, which are then incorporated or attached to the product in the form of labels or packaging. SigNature® DNA markers can be directly embedded into paper, metal, plastics, stone, ceramic, and other materials. Key host carriers used by Applied DNA include ink and textile treatments.

SigNature® DNA Inks

Due to its broad applicability, ink represents one of the foremost candidates for carrying DNA-based authentication technology. Applied DNA's durable and degradation-resistant ink carrying DNA markers can be applied directly to products or be used on labels, barcodes, original documents, or identification forms and be easily applied and verified. The Company provides both visible (overt) and invisible (covert) DNA inks. The Company's overt technologies are visible to the naked eye and are typically used by the consumer to identify the product or document as genuine, while also providing instant detection capabilities. The location of covert ink on a product is recorded and stored in a secure database. In addition to the portfolio of security inks overviewed below and on page 28, varnish, paints, and other media can also be used instead of ink. SigNature® DNA inks have been employed for sporting event tickets, government documents, auto parts, luxury goods, and consumer products.

- *SpectraCRYPT™ Inks with DNA.* Working with Printcolor Screen Ltd., the Company developed a portfolio of efficient, secure printing chemistries that allow printers to use DNA-marked security inks, which can be applied to many types of substrates, including plastic, glass, textiles, and **laminates**. SpectraCRYPT™ is further described under Secure Documents on page 36.

- *Cashield™.* Also developed in collaboration with Printcolor, the Cashield™ family of dyes contains six colors: AzSure® Blue, Green, Violet, Red, Teal, and Indigo. These inks are co-marketed to governments and industry to protect bank notes and financial instruments. Developed at the request of the Company's CViT customer, AzSure® Blue is a highly fluorescent dye that Applied DNA believes is distinct from all other dyes used within the CViT industry. These inks are further overviewed within the CViT section on page 32.

- *Intaglio Inks with DNA.* An overt security ink marked with DNA intended for documents that have a dollar or data value, such as currency, stocks, bonds, and certificates of authenticity.

- *Thermal Transfer with DNA.* **Thermal transfer** printing is a universally accepted and cost-effective method of printing variable data, such as event tickets, **kosher** and **halal** food labels, shipping and inventory labels, baggage claim tags, and a host of consumer products. SigNature® DNA containing thermal transfer ribbons allows retailers to use the SigNature® DNA markers at the point-of-sale, by printing customized price labels, hang tags, event tickets, and even credentials. This product was successfully piloted in collaboration with International Imaging Materials, Inc.

- *Laminates with DNA.* The incorporation of DNA markers into laminated credentials has been validated in travel documents, credit cards, drivers' licenses, and other identification cards. Raising the standards of government-issued identification is a key step toward enhancing national security.

- *Toners with DNA.* Specific DNA sequences can mark the outside of a toner cartridge or the toner powder. This helps limit the infiltration of illegal toners into remanufactured cartridges; secures the cartridge; helps protect printers against the use of illegal cartridges that could invalidate warranties; enhances safeguards for retailers and manufacturers; and empowers consumers, companies, and governments to print secure documents that can be traced to a specific toner cartridge.

Other Security Measures

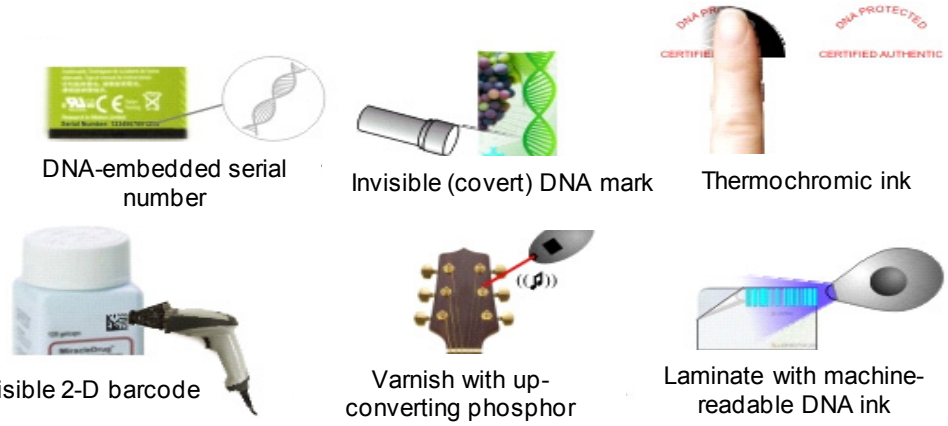
- *DNANet™*. Recently developed tactical DNA products for law enforcement, in the form of DNA-marked sprays and liquids, are being marketed to global police forces. Created to help link criminals to crimes, DNANet™ is a tactical forensic system providing unique DNA codes for covert operations that require absolute proof of authentication.

- *RapiDNA™*. By integrating DNA and Magneto-Optical marking technologies, the Company has created a secure, machine-readable, forensic authentication system that protects brands and customers and convicts counterfeiters. Unique Magneto-Optical markers make tracking and screening activities quick and secure. Wireless devices read and transmit mark data for instant authentication. Further integration with brand owner databases enables comprehensive supply chain management and enhanced sales data collection. Applied DNA believes that DNA, with its international court acceptance, puts brand owners in a solid position to convict counterfeiters.

Using a combination of inks, raw material, and additional security measures throughout the manufacturing process provides multiple layers of anti-counterfeiting security and authentication. Applied DNA provides a range of ready-to-use security measures beyond the security inks described above for the protection and authentication of a product itself as well as for the primary and secondary packaging. Figure 5 (page 29) depicts a selection of these approaches, each of which is designed for the application of SigNature® DNA.

Additionally, the Company offers SigNature® DNA threads—essentially embedding the DNA markers into fabric. Applied DNA maintains that any thread, from cotton to wool, is viable for use with its platform. The availability of SigNature® DNA thread allows the Company to access the textile and apparel markets, as described on pages 33-34. Other security devices include embedding DNA markers into printed barcodes, **radio frequency identification (RFID)** tags, optical memory strips, holograms, and tamper-proof labels.

Figure 5
Applied DNA Sciences, Inc.
SIGNATURE® DNA MARKERS



Source: Applied DNA Sciences, Inc.

SigNature® DNA Detection and Authentication

While the initial creation and embedding of SigNature® DNA markers is controlled exclusively by Applied DNA, detection of the markers can be performed by customers through a simple spot test as well as through more detailed forensic analysis by Applied DNA. Once applied, the presence (or absence) of SigNature® DNA markers can be detected at any point along a product's logistic and supply chain. The Company offers two methods of authentication: Level 1—non-forensic or "spot test" instant screening and Level 2—forensic full DNA sequencing.

Level 1 detection entails a non-forensic screening method performed in the field with a handheld rapid reader. These readers immediately detect the presence or absence of SigNature® DNA markers. As this method is non-forensic, it is not designed to identify a specific DNA marker, but to confirm the presence of SigNature® DNA's layered security solution. In most cases, this test is sufficient to verify the authenticity of the product. Level 1 can be done with a number of handheld devices, including infrared/laser devices, UV detectors, or barcode readers.

Handheld devices can be gadgets similar to a key fob, emitting an audible beep, flashing light, or fluorescent signal activated in the presence of layered SigNature® DNA marks. Alternatively, a handheld UV detector reveals a covert fluorescent DNA marker, and barcode readers detect covert barcode markers. These instant detection tests are simple to perform and require no more time than a typical barcode scan. Tests can be performed at critical transfer points or across the entire distribution process. Applied DNA maintains that outfitting new product supply chain or distribution partners with testing kits is simple and inexpensive, eliminating the need for costly and cumbersome systems or training. Additionally, inspection is non-intrusive, flexible, and easily adaptable to any industry's changing needs.

When a forensic level of authentication is necessary to identify the actual marker used, Applied DNA offers forensic DNA authentication. This technology is DNA sequence dependent and characterized by low error rates and high fidelity. Level 2—full DNA sequencing—authentication is performed at one of Applied DNA's laboratories and is the highest resolution authentication, typically requiring several hours to complete. This process is similar to forensic FBI-style DNA authentication. Level 2 provides more sequence-specific information, providing either the exact length of the markers (measured in base pairs) or the actual sequence of the markers.

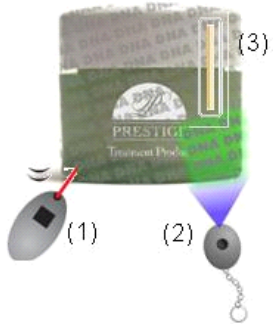
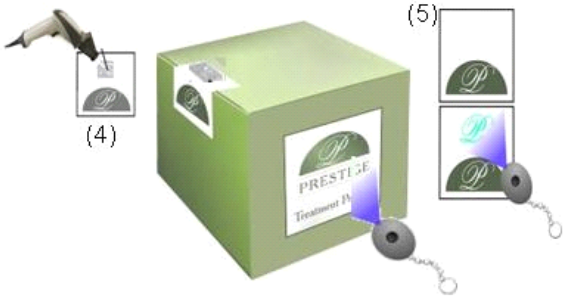
Going forward, Applied DNA intends to continue enhancing its portfolio of detection technologies. The Company is examining opportunities where it can collaborate with universities or other third parties for the development of faster, more convenient authentication methods for the SigNature® DNA markers.

Manufacturing of SigNature® DNA markers, covert DNA ink, and SigNature® PCR kits occurs at Applied DNA's laboratories in Stony Brook. Outside companies produce the Company's overt DNA ink.

Layering

In order to further improve the security of its solution, Applied DNA layers several markers and security devices into the product itself as well as into the product packaging. Most of the security tools come in the form of DNA-marked ink layered with rapid reporters, or standard security tools, such as tamper-evident seals, shrink-wrap, and thermochromic labels that can be enhanced with the use of DNA markers. Applied DNA has aligned itself with security providers and members of the Brand Protection Alliance, BP Council, and the Anti-Counterfeiting Group (UK) to develop commercial label prototypes. Figure 6 illustrates a DNA-embedded, multi-layer anti-counterfeiting solution for a cosmetic product.

Figure 6
Applied DNA Sciences, Inc.
LAYERING OF SIGNATURE® DNA MARKERS

The Primary Package	The Secondary Package	The Product
		

The primary package is…	The secondary package includes…	Lastly…
(1) marked with DNA ink that contains UCP; (2) shrink-wrapped with fluorescent ink; and (3) tamper-evident sealed with a DNA marker.	(4) machine-readable covert bar codes; and (5) a covert fluorescent DNA taggant.	(6) the product itself can contain DNA markers.

Source: Applied DNA Sciences, Inc.

KEY ATTRIBUTES OF SIGNATURE® DNA

Applied DNA believes that its anti-counterfeiting security technology provides several advantages over existing competitive security options, as detailed below and on page 31. These benefits offer customers revenue and profit recovery by minimizing the amount of counterfeit merchandise; enhancing brand value and customer safety by ensuring authentic purchases; strengthening legal positions versus counterfeiters given the forensic nature of the technology; and deterring counterfeiters from attempting to replicate the technology given its absolute nature.

Resistant to Reverse Engineering or Replication

The Company believes that SigNature® DNA is virtually impossible to copy. Rather than using the DNA from one species of plant, the brand markers are created by combining DNA strings from several different plants, thereby becoming so complex that it is statistically impossible to duplicate. In addition, the DNA segment used in the marker must be replicated billions of times in order for detection and identification to take place—a process that can only be achieved by applying matching strands of DNA. Thus, the sequence of the relevant DNA in a specific marker must be known in order to manufacture the primer needed for the detection process. The inability of counterfeiters to duplicate SigNature® DNA markers has been proven in the marketplace. According to Applied DNA, a European media manufacturer's production of 600 million DVDs and CDs in China included 12 anti-counterfeiting security platforms. Within nine

months of the launch of the DVDs and CDs, 11 of those 12 anti-counterfeiting platforms were replicated in the marketplace, with DNA being the only exception. Moreover, DNA markers on those DVDs were still effective three years after launch.

Low Cost and High Accuracy

SigNature® DNA markers are relatively inexpensive when compared to other anti-counterfeiting devices, such as RFIDs, integrated circuit chips, and holograms. The costs associated with the production of DNA markers are not significant since the amount of DNA required for each marker is small and the cloning of the DNA segments is performed inside microorganisms such as yeast or bacteria, which are highly productive and inexpensive to grow. As an example, when incorporated into an ink, the amount of DNA required is only three to five parts per million. In addition, incorporating SigNature® DNA into products does not require major changes to the manufacturing process or logistic chain. Hence, the cost of producing and marking the products is very affordable and complements existing labeling and printing. According to the Company, each application of SigNature® DNA may cost only pennies or less.

The relatively low cost of SigNature® DNA does not affect its reliability. The probability of mistakenly identifying a SigNature® DNA marker is less than one in a trillion, making it virtually impossible to wrongly identify something marked with SigNature® DNA.

Simple, Rapid Authentication

SigNature® DNA marks are easy to identify with handheld readers, which work rapidly to authenticate goods. Greater levels of authentication are also available at Applied DNA's laboratories.

Easily Integrated with Other Anti-counterfeit Technologies

SigNature® DNA markers can be embedded into RFID devices, labels, serial numbers, holograms, and marking systems using inks, threads, and other media. The Company believes that, when combined with other traditional methods, the SigNature® DNA solution provides a significant deterrent against counterfeiting, product diversion, piracy, fraud, and identity theft.

Broad Applicability

Applied DNA's ability to integrate markers in a variety of ways allows SigNature® DNA to be embedded into almost any consumer product or item. SigNature® DNA markers do not alter the quality of the product and are stable and long-lasting. In addition, as SigNature® DNA is safe to consume, it can be used in pharmaceutical drug tablets and capsules, noting that these products require FDA approval.

USES OF SIGNATURE® DNA

The flexibility of Applied DNA's security solutions, coupled with its ability to incorporate SigNature® DNA markers directly into products or carriers, lends itself to applications across a multitude of industries, including but not limited to the following: cash-and-valuables-in-transit (CViT); textile and apparel authentication; military applications; pharmaceuticals; consumer products; secure documents; fine wine, art, and collectibles; and digital and recording media. Because of this broad application, the Company's pipeline can encompass between 50 and 60 different projects at any particular time. Among its many projects, Applied DNA prioritizes those that provide the best combination of revenues and short sales cycles, while offering a platform to showcase the capability and effectiveness of its security platforms.

Going forward, Applied DNA may pursue a number of additional applications for its SigNature® DNA technology beyond the existing markets, as overviewed on the accompanying pages. These future projects, listed as follows, are each at varying stages of development and the Company is currently undertaking pilot studies for several of these innovations: (1) a DNA-marked fog that can spray large spaces or groups of people to combat theft at ATMs and retail establishments; (2) laser toner for secure printing for health records and other documents; (3) adhesives for the manufacture of stock labels; (4) incorporating proprietary DNA markers onto the surfaces of intact metal; and (5) recycled polyester and polyester resin where DNA is added to polyester-based raw materials.

Cash-and-Valuables-in-Transit (CViT)

The SigNature® DNA platform is currently employed for banks and institutions involved in the CViT business, such as cash transport and storage as well as ATM operations. To date, Applied DNA's CViT business has been focused primarily in the UK; however, the Company believes that its technology can be applied worldwide. The successful use of SigNature® DNA markers in CViT applications has demonstrated this platform's strengths and benefits, which is generating interest by other institutions in the CViT business as well as related industries.

Cashield™ Security Inks

In August 2010, Applied DNA and Printcolor Screen launched a family of cash degradation dyes for the CViT industry called Cashield™. Cashield™ includes six dyes: AzSure® Blue, Green, Violet, Red, Teal, and Indigo. Color options allow cash carriers to differentiate by customers and regions, or other parameters. These dyes are also designed to better penetrate notes packed in tight stacks and to have improved wash-out resistance than competitive security inks. The Company believes that Cashield™ is resistant to wash-out, enhances penetration, and is characterized by intense fluorescence (as illustrated in Figure 7).

Figure 7
Applied DNA Sciences, Inc.
BANK NOTES STAINED WITH CASHIELD™ AZSURE®

Source: Applied DNA Sciences, Inc.

Cashield™ is Laboratoire National de Métrologie et d'Essais (LNE) certified, for which the inks were subjected to 47 individual dye penetration and wash-out-resistance tests. Studies with Cashield™ inks have determined that Cashield™ is safe, non-reactive, and maintains a favorable risk and safety profile that meets safety regulations for road, rail, sea, and air transport.

AzSure® Blue, one of the cash degradation dyes in the Cashield family, is combined with a DNA fluorescent rapid reporter. Once the dye is applied to the cash, it decorates all the notes with an opaque ink along with the presence of DNA markers. When the cash is recovered by authorities, a Level 1 authentication process is performed to detect the presence of DNA. If the screening is positive, the cash is sent to one of Applied DNA's laboratories for Level 2 DNA Authentication. Since each cash box is assigned an individualized SigNature® DNA marker, the higher level testing can match the marker present in the recovered cash to a database of markers, allowing identification of the owner of the stolen notes. Applied DNA believes that Cashield™ dyes are a more effective carrier for SigNature DNA® markers as they are thought to overcome critical technical weaknesses of current dyes in order to leave a forensic trail to stolen CViT and result in a higher probability of conviction.

Loomis UK

Since January 2008, Applied DNA has been working with Loomis UK, a cash-handling company that moves over £150 billion in cash annually. Since that time, Applied DNA has gradually increased its market share of the taggants used by the UK CViT industry to over 30%. Loomis has retained Applied DNA to assist in forensic authentication and the provision of expert witness statements. As a result, in the UK, SigNature® DNA evidence is actively being used to help prosecute and convict offenders.

To date, the Company has successfully authenticated evidence in 35 CViT cases from multiple UK police departments, with a 100% success rate thus far in confirming dye-stained stolen goods. Thirteen individuals have been convicted through the help of SigNature® DNA markers. For one trial in particular, where a security guard was shot, the use of Applied DNA's dyes marking the stolen cash helped lead to the conviction of five defendants for over 60 years of combined jail time.

In December 2009, SigNature® DNA was successfully used in a UK Court of Law as evidence by the prosecution resulting in convictions of criminals involved in CViT crimes. The SigNature® DNA markers present in the recovered evidence as well as on personal items such as clothing and mobile phones belonging to the suspects linked the criminals to the evidence, leading to conviction and prison sentences. Additionally, in February 2010, forensic evidence, including SigNature® DNA-marked stolen cash from Loomis' cash boxes, was used to link suspects to a crime spree spanning 23 CViT crimes in which over £300,000 was stolen. The use of SigNature® DNA technology was deemed critical in this case, as DNA-stained banknotes supplied the forensic evidence necessary to convict the three criminals for prison terms of over 21 years.

Altogether, Applied DNA's customers have experienced a 49% reduction in losses as a result of CViT offenses year-over-year versus the UK industry as a whole, which has experienced a 34% decrease.

Textiles and Apparel

Working with both Supima® cotton (an organization of U.S. Pima cotton growers) and the Yorkshire wool industries, Applied DNA has successfully demonstrated the feasibility of SigNature® DNA marked raw fiber, textiles, and fabrics produced at different points of the textile and apparel manufacturing process. SigNature® DNA can be embedded into any fiber or polymeric raw material used in technical textile products. Medical textiles, protective clothing, performance clothing for work or outdoor activities, as well as non-woven materials, can also all benefit from DNA embedment and authentication. Unique SigNature® DNA threads and yarns can be customized for each brand owner or manufacturer and used to sew linings, button closures, woven labels, and garments. The flexibility and high specificity of SigNature® DNA enables the manufacture of a practically unlimited variety of product markers. Theoretically, every stock-keeping unit (SKU) in the world could be uniquely marked.

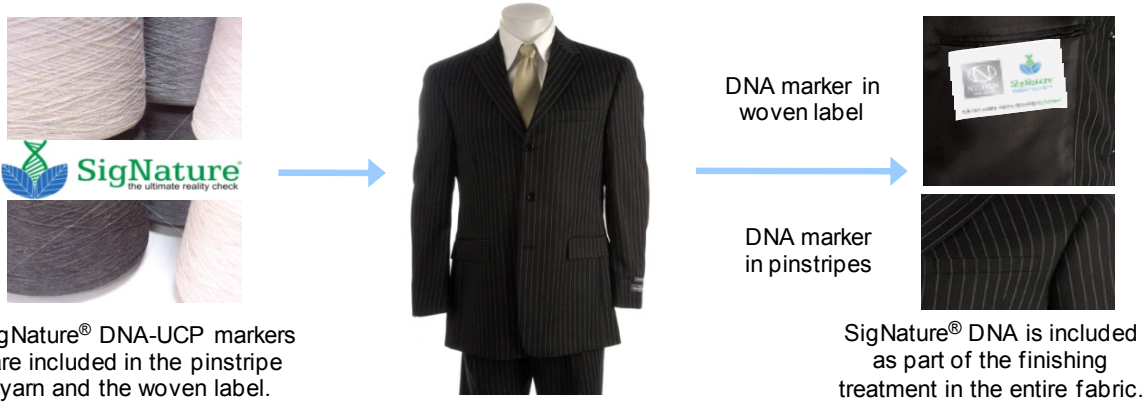
Applied DNA has developed patents and acquired commercial experience related to the marking of fabrics with SigNature® DNA and adducts of DNA markers with optical reporters that allows for rapid screening of SigNature® DNA-marked textiles. A range of optical reporters are layered with SigNature® DNA markers, typically in a textile treatment, so that they can be readily incorporated into existing textile manufacturing processes.

Applied DNA collaborates with Yorkshire Forward and local Yorkshire-based companies and the Textile Centre of Excellence, and has successfully demonstrated the feasibility of SigNature® DNA marked pin-stripe worsted woolen suits (as illustrated in Figure 8 [page 34]). In February 2009, the Company announced that it was embarking on the next phase of its SigNature® DNA Anti-Counterfeit Program, a multimillion-dollar, multiyear commercialization program, which includes funding from Yorkshire Forward. In June 2009, Applied DNA announced a successful program to mark and authenticate over 500,000 pounds of raw cotton fiber as part of a pilot study conducted in collaboration with one of the largest cotton growers in the U.S. By June 2010, the Company had launched a textile-based SigNature® DNA Anti-Counterfeiting Program in the UK, with an initial order for approximately $50,000 from the Textile Centre of Excellence as part of its participation in a multi-year contract funded by the European Regional Development Fund and Yorkshire Forward.

Figure 8

Applied DNA Sciences, Inc.

SIGNATURE® DNA IN PINSTRIPE SUIT



SigNature® DNA-UCP markers are included in the pinstripe yarn and the woven label.

SigNature® DNA is included as part of the finishing treatment in the entire fabric.

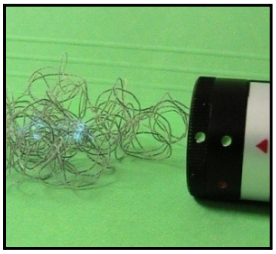
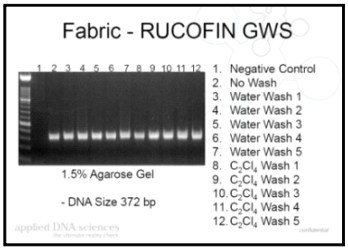
Source: Applied DNA Sciences, Inc.

In order to conduct fast and accurate authentication of products throughout the supply chain, SigNature® DNA markers woven into yarn include a rapid reporter linked to DNA, allowing for a Level 1 authentication using a handheld rapid detector at any stage of the production and manufacturing process. Figure 9 illustrates that the detection of DNA markers is not affected by multiple wash cycles of garments.

Figure 9

Applied DNA Sciences, Inc.

SIGNATURE® DNA MARKER DETECTION IN UK WOOL PRODUCTS

SigNature® DNA-UCP detected in pinstripe.	SigNature® DNA-UCP detected in woven label.	DNA analysis shows that SigNature® DNA persists after multiple washings.
		

Source: Applied DNA Sciences, Inc.

In April 2009, Applied DNA partnered with Nilorn UK, BrandWatch™ Technologies, and Addmaster, a branding and design specialist, to launch a new woven label called Nil-Secure/SigNature® DNA, with plans to continue to co-market and sell this initially in the UK and Europe. The project incorporates a unique SigNature® DNA marker to the inks and yarns used to produce the garment label. Applied DNA plans to extend its textile security platform through the implementation of a second phase of this project, which incorporates BioMaterial Genotyping™ together with the SigNature® DNA platform for a full authentication solution for natural fibers, such as wool, cashmere, and silk.

Pharmaceutical Products

Applied DNA has broadened its focus on security offerings to include the healthcare industry as it believes that its anti-counterfeiting security platforms are well suited to protect the personal care, pharmaceutical, medical device, and biotechnology industries. The healthcare industry is a highly lucrative target for counterfeiters, which exposes consumers to significant health and safety risks. In August 2010, Markets and Markets (www.marketsandmarkets.com), a research and consulting firm, forecast that the global anti-counterfeit market for food and pharmaceuticals could reach $79 billion by 2014, with an estimated compound annual growth rate of 8.6% from 2009 to 2014. Applied DNA's technological platforms can offer different levels of anti-counterfeiting security in order to protect the pharmaceutical supply chain. The Company believes that applying its anti-counterfeiting security DNA technologies to pharmaceutical products could demonstrate the value of its security platforms, providing the opportunity not only for increased revenues but also to assist in improving product safety and ultimately help protect the well-being of consumers worldwide.

The Company's SigNature® DNA markers can be used in a layered approach by applying DNA markers to primary and secondary packaging and labels of pharmaceutical products. Moreover, because of the biological origins of SigNature® DNA markers, the Company can incorporate markers in individual drug doses, single pills, or topical skin creams. By customizing DNA sequences, authentication resolution can be as specific as needed. It can include all of a manufacturer's products or be narrowed to identify individual production lots. According to the Company, there are very few security platforms available to date that are amenable to marking unit doses.

As FDA approval is required to incorporate botanical markers into pharmaceutical products in the U.S., Applied DNA is seeking a partner that may be interested in obtaining FDA approval for SigNature® DNA as a method of marking pharmaceuticals, such as tablets and capsules. In addition, using the same approach that provided the Company with the ability to verify the origin and authenticity of naturally derived textiles, Applied DNA can utilize its BioMaterial Genotyping™ platform to identify a pattern of native DNA content in biological drugs and in naturally derived ingredients that are used in pharmaceuticals, cosmetics, skincare products, and nutritional supplements.

Consumer Products

Similar to its pharmaceutical offerings, Applied DNA can use its security platforms to mark both the packaging and the bulk product of cosmetics, healthcare, beauty, and other consumer products. There are a large number of counterfeit cosmetic and personal care items, with as much as $3 billion worth of fragrances and cosmetics reportedly counterfeit each year. A further $12 billion worth of clothing and accessories worldwide is faked annually as well (Source: World Customs Organization).

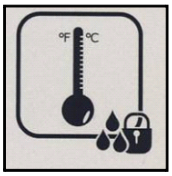
Among the Company's successful implementations, an international specialty chemical company called Rhodia AG (formerly Rhône Poulenc) uses SigNature® DNA to protect the bulk packaging for a line of ingredients marketed under its Jaguar® label, a line of thickener polymers used in skincare and hair care products that had previously been counterfeited out of Taiwan.

A rapid screening platform allows for instant authentication of any genuine Jaguar® product, with the intent of ensuring safety in the use of Jaguar® ingredients for consumer health and well-being. The solution includes a label with DNA and fluorescing ink. Clients are provided with an instant detection device that authenticates the logo and identifies the presence of DNA. In addition, higher-level forensic DNA authentication can also be performed if desired.

Secure Documents

Applied DNA, in partnership with Swiss company Printcolor Screen Ltd., has developed spectraCRYPT™, a family of security inks for the brand protection and security market. The spectraCRYPT™ security inks allow for instant detection and DNA authentication. A selection of available spectraCRYPT™ inks is illustrated in Figure 10.

Figure 10
Applied DNA Sciences, Inc.
SPECTRACRYPT™ INKS

 **ceraCRYPT:** Ceramic-based markers detectable through laminates and overprinted colors	 **piezoCRYPT:** Water-based inks that change from a colorless to a colored state when rubbed	 **thermoCRYPT:** Reversible or irreversible color changes based on temperature

Source: Applied DNA Sciences, Inc.

Applied DNA has also included SigNature® DNA markers into a variety of other inks and toners, providing the ability to print uncopiable DNA-based valuable documents, including securities, official government documents (e.g., social security cards and passports), printing labels, credentials, or event tickets that can be authenticated onsite. Table 7 summarizes many of the documents where SigNature® DNA markers can be used in an effort to curb piracy and identity theft—concerns of governments worldwide. To this extent, the Company's DNA offerings have been supplied to a government agency that is using the DNA markers to secure documents. Applied DNA anticipates that this government agency may help promote the use of DNA to other groups.

Table 7
Applied DNA Sciences, Inc.
SECURE DOCUMENTS APPLICABLE TO PROTECTION WITH SIGNATURE® DNA

- Passports
- Lawful permanent resident or green cards
- Visas
- Drivers' licenses
- Social Security cards
- Military identification cards
- National transportation cards
- Security cards for access to sensitive locations
- Other important identity cards, official documents, and security-related cards

Source: Applied DNA Sciences, Inc.

Fine Wine, Art, and Collectibles

Applied DNA has successfully completed pilot studies with Paumanok Vineyard and another boutique winery on Long Island involving the application of SigNature® DNA markers onto bottles of premium wines. SigNature® DNA markers were incorporated into the ink used to print the labels of seven premium wines between the two vineyards. Paumanok has selected a collection of its premium wines for protection with special DNA-marked wine labels to guarantee the authenticity of its wines and protect the integrity of its brand. The winery has designed new labels embedded with SigNature® DNA markers for the launch of the following premium wines: (1) 2008 Late Harvest Riesling; (2) 2007 Merlot Tuthills Lane Vineyard; and (3) 2007 Petit Verdot Apollo Drive Vineyard Limited Edition. The Company is now continuing to apply DNA markers to the tamper-evident foil capsule heat-sealed onto the neck of the bottle as well as into the screw tops being introduced at all price levels across the global wine community. As well, Applied DNA's BioMaterial Genotyping™ platform (overviewed on pages 38-41) is capable of identifying wine based on its varietal of grape and the region where it is grown.

In February 2010, Applied DNA participated in an anti-counterfeiting demonstration. The Company provided authentic wine labels embedded with SigNature® DNA to its partners in the presentation, who then had six months to attempt to counterfeit the labels. The labels and counterfeit labels were compared side by side at the Brand Protection Conference held in Miami Beach, Florida, where it was definitively shown that the authentic labels could be readily identified, even though the counterfeit labels looked identical. This presentation demonstrated the strength of Applied DNA's botanical SigNature® DNA technology and determined that the security features and DNA embedded in the wine labels could not be counterfeited by a printer.

Likewise, SigNature® DNA is applicable to the fine arts and collectibles markets, where counterfeited or forged pieces are sold. Types of collectibles where DNA markers can be embedded include paintings, frames, books, porcelain, marble, stone, bronzes, tapestries, glass, and fine woodwork. As well, the technology can be embedded in the supporting documentation, artists' signatures, or other relevant material authenticating the pieces.

Digital and Recording Media

Digital and recording media is a key target market for Applied DNA as the U.S. software industry alone was estimated to have lost nearly $9 billion in 2007 to software piracy, which represented an increase of $1.6 billion over 2006 (Source: the Business Software Alliance). The Company's research has identified an independent study of the U.S. software industry, which acknowledges that as much as 33% of software in the U.S. is likely unlicensed. SigNature® DNA markers embedded both on the products and the packaging may help fight piracy of digital and recording media, as these markers are applicable to CDs, DVDs, videotapes, and computer software, among others.

Military and Homeland Security

Government agencies today are also increasingly vulnerable to counterfeiting, terrorism, and other security threats. The U.S. military and government are constantly under threats from potentially fatal equipment failure, cost overruns, and even foreign espionage due to the unintentional use of counterfeit components in spaceships, warplanes, ships, and communication networks (Source: *BusinessWeek* 2008). In addition, government agencies are faced with the issues of counterfeit currencies and official documents, such as passports, visas, and social security cards. Applied DNA's security solutions can be applied to computer, aviation, weapons, and other parts used by the military in order to secure the supply chain. The Company can use its growing portfolio of security inks and anti-counterfeiting measures to secure identification cards and official documents. Additionally, in September 2010, Applied DNA announced that it developed a botanical DNA technology to forensically identify microelectronics. As a Department of Energy (DOE) vetted technology, this new approach is expected to have utility combating the millions of counterfeit microchips being made in China and sold in the U.S., some of which are sold to the U.S. military. From November 2007 through May 2010, U.S. Customs officials seized over five million bogus chips (Source: Homeland Security Newswire, September 2010).

By leveraging its relationships with the U.S. military and government contractors, the Company is working toward the initiation of a pilot program specific to applications in military microchips and their supply. The purpose of the pilot is not to demonstrate feasibility as that is already completed but rather to demonstrate the ease of integration into the existing logistics supply chain.

Current methods for detecting counterfeit microelectronics include a review of associated paperwork, visual inspections, and reliability testing. However, Applied DNA believes that these techniques are inadequate as paperwork can be easily forged; visual inspection is unreliable, superficial, and cannot be absolute in nature; and reliability testing is costly and cannot keep up with demand. In contrast, the Company believes that its DNA markers can forensically protect semiconductors, microchips, printed circuit boards (PCBs), resistors, capacitors, and routers, among many other electronic components.

BioMaterial Genotyping™

Applied DNA's anti-counterfeiting platform, BioMaterial Genotyping™, offers a means for determining the authenticity of natural products as well as distinguishing between varieties or strains of biomaterials, such as cotton, wool, tobacco, fermented beverages, natural drugs, and food. Just as a person's DNA specifies all of their qualities, biomaterials can be identified by their genomic DNA. Table 8 summarizes the functions of Applied DNA's BioMaterial Genotyping™ platform.

Table 8
Applied DNA Sciences, Inc.
BIOMATERIAL GENOTYPING™ PLATFORM

- Authenticates originality
- Assures quality at all stages of logistic and supply chains
- Offers quality control and assurance to avoid mislabeling
- Allows manufacturers to identify their products to make accurate warranty decisions
- Enhances confidence in content and quality of products by all stakeholders in the logistic and supply chains
- Enables customs and enforcement agencies' authentication of products

Source: Applied DNA Sciences, Inc.

Identification and confirmation of the source or type of natural product used in a finished item has important benefits. Being able to authenticate the natural material helps deter counterfeits from entering the marketplace while letting manufacturers improve quality control throughout all the stages of the supply chain and production process. This not only minimizes forgery risk but also helps avoid mislabeling, which enhances consumer confidence in the quality of the purchased merchandise.

Applications of this technology are broad and include anything that is biological in nature. For example, the cotton industry has historically operated on the belief that genetic distinctions known to exist in the growing fibers of cotton strains were lost in the mature fibers. Applied DNA was among the first to develop proprietary genetic-based assays and protocols that identify DNA markers endogenous to a particular plant in order to differentiate between biological strains of cotton.

Similarly, BioMaterial Genotyping™ can be used to authenticate natural materials present in, but not limited to, textiles and apparel, consumables, nutraceuticals, and biotherapeutics. The Company has developed patent-pending methods to track the genetic trail of natural ingredients used in currency manufacturing, thereby verifying the paper notes' authenticity. In addition, Applied DNA has been able to identify the unique signature of the cellulose-linen paper used in British and American industry, which may enable financial document authentication.

The Company believes that the annual global market for BioMaterial Genotyping™ could exceed $1 trillion as the market is composed of foods, natural oils, natural textiles, nutraceuticals, biological drugs, and the natural ingredients used in personal care, among others. Applied DNA maintains in-house capabilities to complete all BioMaterial Genotyping™ authentications.

APPLICATION OF BIOMATERIAL GENOTYPING™ TO THE COTTON INDUSTRY

The complexity of today's international cotton trade makes it difficult to establish the origin of fibers. More than 30% of the cotton fiber produced worldwide crosses international borders before processing, a larger share than that of wheat, corn, soybeans, or rice. Moreover, through trade in yarn, fabric, and clothing, much of the world's cotton crosses international borders multiple times before reaching a final consumer. Consequently, the origin of the fibers used in goods is difficult to trace. Given the global nature of the cotton industry, the ability to monitor this trade has implications for governments around the world.

Applied DNA is developing anti-counterfeiting security solutions that protect brand reputations and intellectual property as well as help to assure the end consumer that retail products are 100% genuine. The Company uses its BioMaterial Genotyping™ platform to identify the cotton fiber content and geographic origin of finished textiles in order to allow brand owners to ensure the quality of finished goods and to help governments regulate the international cotton trade. BioMaterial Genotyping™ uses the residual DNA in cotton to identify the genus species of a particular cotton fiber.

According to Applied DNA, prior to the development of this process, no one had been able to successfully extract DNA from mature cotton fibers, which were believed to be devoid of usable DNA. Applied DNA proved this untrue by developing methods and protocols that greatly enhanced DNA detection, allowing for the extraction of DNA from mature cotton fibers. The Company extended its genotyping of finished fabrics or garments to the genetic analysis of single fibers. This development permits the authentication of more complex fabrics such as towels, which may be composed of multiple sources of cotton. As a result of this new DNA extraction methodology, any blending of multiple cottons can be detected.

Based on this technology, Applied DNA has developed two proprietary genetic-based assays to identify DNA markers that are endogenous to cotton in order to differentiate between biological strains—FiberTyping™ and PimaTyping™. Applied DNA believes that its BioMaterial Genotyping™ assays cannot be counterfeited, as they test for innate genomic DNA.

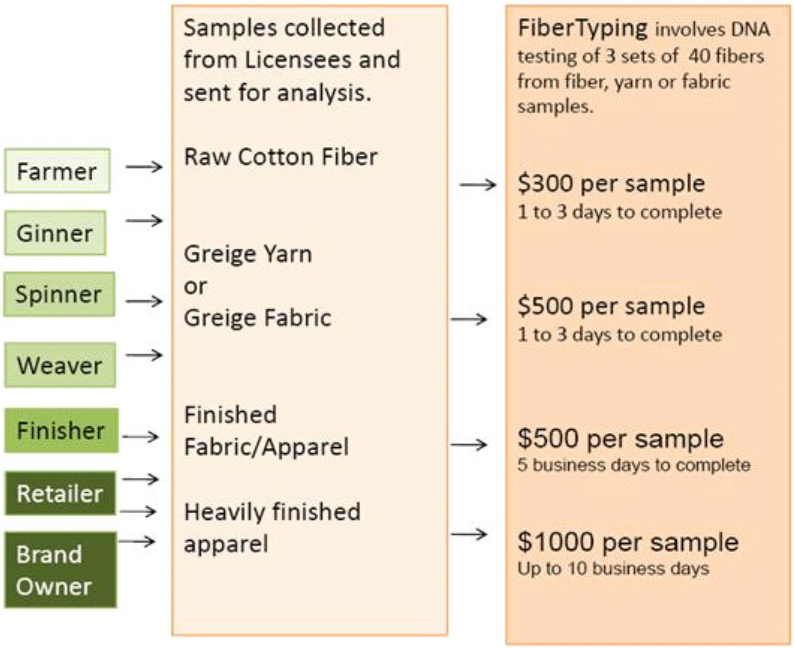
(1) FiberTyping™ differentiates between Pima cotton (*G. barbadense*) and Upland cotton (*G. hirsutum*).

(2) PimaTyping™ differentiates between the Pima cottons grown in different regions of the world.

FiberTyping™

Applied DNA launched its FiberTyping™ DNA authentication assay for cotton to initial customers in the U.S., China, Hong Kong, and India during May 2010. With FiberTyping™, Applied DNA seeks to offer an authentication solution that can be used by the entire textile supply chain (as illustrated in Figure 11). FiberTyping™ aims to cost effectively offer assurance to manufacturers, suppliers, distributors, retailers, and end users that their products are authentic and made from the fibers and textiles as labeled.

Figure 11
Applied DNA Sciences, Inc.
FIBERTYPING™ AUTHENTICATION PROCESS



Source: Applied DNA Sciences, Inc.

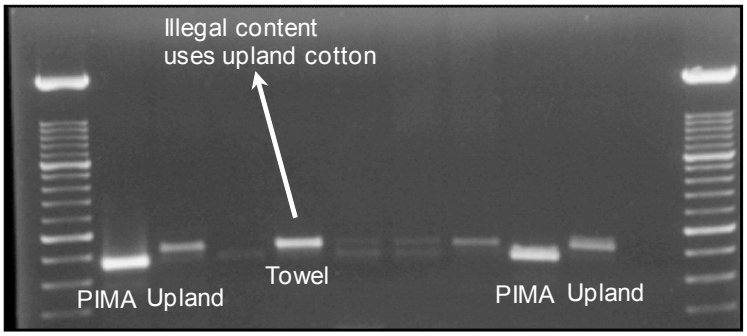
Applied DNA has been working with Supima®, the promotional organization of U.S. Pima cotton growers, to help preserve the brand's reputation. Pima cotton is one of the most expensive and highest quality cottons grown in the U.S., representing less than 3% of total production. The brand Pima is intended to convey quality, durability, and dye-ability. Moreover, as cost differential is significant between Pima and Upland cotton, manufacturers are incentivized to add cheaper cotton strands, such as Upland, to products labeled 100% Pima in order to improve profit margins. However, this activity violates the federal Textile Fiber Products Identification Act ("Textile Act") and exposes manufacturers to the federal act that governs the use of trademarks. Applied DNA believes that the illegal dilution of Pima content has led to a diminishing U.S. cotton processing industry. As countries dilute the products that are shipped back to the U.S. and mislabel them as containing 100% American Pima, these importers gain a cost advantage that has led the U.S. to systematically export its cotton weaving and spinning to other countries, primarily India, Pakistan, and China. However, these three countries are also among the main violators of Pima trademarks, which accounts for most of the perceived cost benefit.

The availability of FiberTyping™ could not only help governments enforce trade quotas, reducing counterfeiting and tariff evasion, but could also provide the tools to enforce rules and regulations governing textile products. The FTC ruled in June 1997 that manufacturers and retailers must itemize cotton source content on any apparel or textile product when the name of a premium fiber is being used. The Textile Act and rules enforced by the FTC cover fibers, yarns, and fabrics, and household textile products made from them, such as clothing and accessories, draperies, floor coverings, furnishings, and beddings. Under U.S. law, product labels advertising or selling clothing or household items containing premium cotton must accurately reflect the fabric content. Manufacturers and retailers labeling their products as containing premium cotton are required to itemize cotton source content on any apparel or textile product.

For instance, a sheet that contains 65% Pima Cotton and 35% Upland Cotton may be labeled "100% Cotton," "100% Cotton (65% Pima Cotton)," "65% Pima Cotton, 35% Upland Cotton," or "65% Pima Cotton, 35% Other Cotton." Under the Textile Act, a textile fiber product is misbranded and subject to fines and penalties if it is falsely or deceptively stamped, tagged, labeled, invoiced, or otherwise identified.

In multiple studies conducted by the Company for one of America's largest retailers, it was determined that more than 30% of the cotton products surveyed were mislabeled. Figure 12 highlights the results of products tested for a Supima® licensee that were sold in an international retail establishment. The DNA from Pima cotton appears in the second line, and the DNA from Upland cotton appears in the third line. When the Company analyzed the towels sold by these establishments, it found that the product was mislabeled—the fiber content had been compromised in order to improve the margin of the manufacturer.

Figure 12
Applied DNA Sciences, Inc.
FIBERTYPING™ STUDY



Source: Applied DNA Sciences, Inc.

In addition to Pima cotton, FiberTyping™ can also be used to authenticate other premium fibers, such as Egyptian Giza, Peruvian, Sea Island, and Israeli extra long staple cottons used to produce knits, apparel, and home textiles. As such, FiberTyping™ could also become a major resource for the U.S. Federal Trade Commission (FTC), Customs, and trade relations. The FTC and retailers could mandate suppliers and brands to demonstrate that products are 100% genuine by requiring each step of the supply chain—from the farmer who grew the cotton, to the ginner, the spinner, and the weaver—to audit and authenticate the product. Thus, FiberTyping™ could be employed throughout a vertically integrated business base.

PimaTyping™

PimaTyping™ follows a similar process and principles to FiberTyping™ but is designed to differentiate between the American and extra long staple types of Pima cotton grown in different regions of the world. Extra long staple Pima cotton is known for its fiber length, strength, and natural luster. Because of the fineness of this type of Pima cotton, more fibers can be spun into a yarn of a given count, which enhances the feel, softness, and brilliance of the fabric's color.

Competition

The anti-counterfeit and fraud prevention market is highly competitive, rapidly evolving, and diverse. When combined with "competitive security" in a layered approach, SigNature® DNA elevates the security platforms developed by other security companies to a forensic level that cannot be copied or reverse engineered. While the Company believes that its security solutions offer broad applicability, resistance to replication, forensic capabilities, and high accuracy over other competitive options, there are a variety of companies that also offer established security and anti-counterfeiting technologies.

The most common technologies used to combat anti-counterfeiting efforts are as follows: (1) integrated circuit chips (IC chips), such as RFID; (2) optically variable microstructures, including holograms, which display visible images that incorporate three-dimensional or color-changing properties; and (3) elemental taggants and fluorescence substances, which are used to mark products and other items and are revealed by techniques, such as x-ray fluorescence or UV light. Additional technologies, including magnetic strips, fingerprint scanners, radioactivity, and rare molecules are also employed. A comparison of the primary anti-counterfeit security technologies currently on the market is provided in Table 9, followed by profiles of entities operating in the anti-counterfeiting and fraud prevention markets. The following selection is not intended to be an exhaustive listing of competitors but rather is believed to be indicative of the type of competition that the Company may face as it commercializes and/or licenses its technologies.

Table 9

ANTI-COUNTERFEIT SECURITY TECHNOLOGY COMPARISON

Technology	Verification Method	Signal Stability	Versatility	Application
DNA	DNA Analysis	Stable	Broad	Universal
Fingerprint	Image analysis	Variable	Personal only	Access control
IC chip	Electronic signal analysis	Can be modified	Limited by memory	Multiple
Magnetic strip	Electronic signal analysis	Can be modified	Limited by memory	Card recognition
Holograph	Visual analysis	Can be worn down	Plate design only	Label, packaging
Fluorescence	UV light scan	Stable	Spectral bandwidth	Label, printing
Radioactivity	Radiation detection	Stable	Limited	Crude oil
Rare molecules	Spectrophotometer	Stable	Limited	Crude oil

Source: Applied DNA Sciences, Inc.

Authentix, Inc. (www.authentix.com)

Authentix provides authentication and brand protection solutions for the oil and gas, pharmaceutical, consumer, tobacco, spirits, and agrochemical industries, as well as fiscal tax recovery and security services for governments worldwide. Within its portfolio of brand protection solutions, the company has an extensive range of patented technologies for on-package and in-product authentication, including regulatory approved forensic markers for ingestible products, such as pharmaceuticals, foods, and beverages. The collection also includes both overt and covert security inks for field and laboratory authentication. Specifically, Authentix has been working to authenticate bank notes since 2005. This activity is now the fastest-growing segment of Authentix' operations, accounting for between 30% and 40% of roughly $50 million in annual revenue (Source: *Dallas Business Journal* May 2010). The company has headquarters in Addison, Texas.

Collectors Universe Inc. (www.collectors.com)

Collectors Universe, Inc. is a third-party grading and authentication service for high-value collectibles. The company authenticates and grades collectible coins, trading cards, tickets, autographs, memorabilia, and stamps. It also compiles and publishes authoritative information about U.S. and World coins, collectible sports cards, and sports memorabilia and collectible stamps. Coins, trading cards, autographs, memorabilia, and stamps comprise the company's principal authentication and grading markets. Its brands in those markets include Professional Coin Grading Service (PCGS), Professional Sports Authenticator (PSA), PSA/DNA Authentication Services (PSA/DNA), and Professional Stamp Experts (PSE). The company has headquarters in Santa Ana, California.

DataDot Technology Ltd (www.datadotdna.com)

The DataDot Technology Group of companies are involved in asset identification, offering theft deterrent solutions for cars, motorcycles, trucks, marine craft, heavy equipment, home contents, business assets, and most other high-value items. The product consists of polyester substrate micro-dots, each the size of a grain of sand, onto which unique information is laser etched. These dots come pre-mixed in a UV-based adhesive for ready application onto assets such as cars, motorcycles, snowmobiles, laptops and other electrical equipment, business assets, cell phones, tools, power sports equipment, and other high-value items. Each kit manufactured by DataDot contains its own unique code for a given asset. This may include a vehicle identification number, hull identification number, a computer-generated PIN for personal and business assets, or the dot information may be fully customized. Each PIN is unique and cannot be manufactured again. Each DataDot kit may be registered on a secure national database for law enforcement access in the event the asset is lost or stolen.

In June 2010, DataDot announced that AgTechnix Pty Ltd, a company in which it has a joint ownership, entered into a commercial arrangement with GlaxoSmithKline Australia Pty Ltd to use IntelliSeed™ on a commercial quantity of poppy seed to be sown by GlaxoSmithKline in the 2010 season. IntelliSeed™ identifies seeds, grain, and other bulk commodities down to an individual batch number, with the aim of detecting counterfeit target commodities and controlling internal and cross border, end-to-end supply chain management. DataDot Technology has headquarters in Frenchs Forest, NSW, Australia.

De La Rue PLC (www.delarue.com)

De La Rue is a commercial security printer and papermaker, involved in the production of over 150 national currencies and a wide range of security documents, such as passports, authentication labels, and fiscal stamps. De La Rue maintains that it is among the world's largest commercial security printers. Around the world, central banks use De La Rue equipment to count and sort notes quickly, reliably, and in large quantities, helping them to reduce the cost of handling cash. De La Rue also pioneers new technologies in government identity solutions for national identification, drivers' licenses, and passport issuing schemes. In July 2010, De La Rue opened a new bank note factory extension in Sri Lanka, representing an investment of more than £20 million. Over the past five years, De La Rue has doubled its employees in Sri Lanka to more than 350 individuals. The company is registered in England and Wales.

InkSure Technologies, Inc. (www.inksure.com)

InkSure provides covert machine-readable technology solutions for the protection of branded products, documents, and other items against counterfeiting, fraud, and diversion. The company's security solutions, which it believes are virtually impossible to reverse engineer, work by adding special chemical markers to the standard inks and coatings used by businesses for both their overt and covert security features. Each customer's InkSure formula has a unique signature that is invisible to the naked eye. These signatures are identified by the company's handheld and/or mounted electro-optic readers that verify codes within seconds by emitting simple yes-no visual and audio signals. InkSure readers can also be added to a production line. The company's technology was designed to cater to diverse industries and is applicable to such entities as pharmaceutical manufacturers, automotive and aviation parts suppliers, consumer and luxury goods companies, financial institutions, government bureaus and ministries, and transportation authorities. InkSure is headquartered in Fort Lauderdale, Florida.

Recent Milestones

In the past year, Applied DNA has achieved many corporate milestones, as summarized below.

- Introduced SigNature® DNA in Europe at CARTES & IDentification 2009 (Paris, France), an international show for technological innovation in the fields of identification, biometry, and authentication
- Expanded its sales force to include a number of veteran industry and government consultants responsible for driving sales and strategic business initiatives throughout the U.S. and abroad
- Demonstrated the forensic value of SigNature® DNA's CViT solutions in two recent cases in the UK. The use of SigNature® DNA was deemed critical in two separate CViT criminal cases, as it supplied the forensic evidence necessary to convict the criminals, some with prison terms of over 21 years.
- Entered into an exclusive agreement with Swiss company Printcolor Screen Ltd. for the production of a new blue cash degradation dye called AzSure®
- Signed an exclusive supply agreement with a luxury brand having global distribution and headquarters in Europe, under which the Company committed to supply proprietary DNA authentication marks exclusively for the brand-owner's customers. The agreement is valued at up to $8.7 million to maintain exclusivity over the life of the contract.
- Signed a supply agreement with Nissha Printing Co., Ltd., an international printing company, headquartered in Asia
- Signed a three-year contract for Swedish company Safe Solution to market and sell SigNature® DNA forensic products and Applied DNA's proprietary cash degradation dye, AzSure®, to the Scandinavian market
- Entered into an exclusive supply agreement with H.W. Sands Corp. to mark custom poker chips and playing cards for Florida-based Palm Gaming International, an importer and manufacturer of these products
- Developed a new botanical, Department of Energy (DOE)–vetted DNA technology to forensically authenticate microelectronics, such as counterfeit microchips sold to the U.S. military. This new technology targets a global market for counterfeit electronics that may be as large as $10 billion.
- Announced as a winner of the Excellence in Policing Award in partnership with the Lancashire Constabulary for the innovative use of DNA forensic markers
- Launched a textile-based SigNature® DNA Anti-Counterfeiting Program in the UK and received an initial order for approximately $50,000 from the Textile Centre of Excellence as part of its participation in the multi-year contract funded by the European Regional Development Fund and Yorkshire Forward
- Partnered with Bilcare Technologies for combined security platforms to improve authentication and cost efficiencies
- Launched FiberTyping™ for customers based in the U.S., China, Hong Kong, and India, and received repeat orders
- Joined forces with Retired Vice Admiral Edward Straw to leverage his supply chain expertise and relationships

Key Points to Consider

- Applied DNA is a provider of DNA-based security and authentication solutions to protect products, brands, and intellectual property from theft, counterfeiting, fraud, and diversion.
- Annual global trade in illegitimate goods was estimated at $650 billion in 2007—expected to reach $1.2 trillion by 2014, which could represent 5% to 7% of all worldwide trade. In response, new anti-counterfeiting technologies, such as those from Applied DNA, could surpass $82 billion by 2015 as brand owners invest in multilayered brand protection using overt, covert, and forensic technologies.
- In October 2008, the U.S. government approved an anti-counterfeit law that sets prosecution and mandatory sentences for convicted counterfeiters. The PRO-IP Act toughens criminal and civil laws against piracy and counterfeiting. The U.S. Chamber of Commerce hailed the PRO-IP Act as a major step toward improving the U.S. government's capacity to protect intellectual property.
- The anti-counterfeit and fraud prevention market is competitive, rapidly evolving, and diverse. When combined with "competitive security" in a layered approach, SigNature® DNA elevates security tools developed by other companies to a forensic level that cannot be copied or reverse engineered. The Company believes that its solutions have a broad application, are resistant to replication, and offer levels of accuracy that provide forensic advantages to enhance competitive security options.
- The Company's security-related platforms, SigNature® DNA, Cashield™, DNANet™, RapiDNA™, and BioMaterial Genotyping™, service multiple vertically integrated industries, including cash-and-valuables-in-transit (CViT), textiles and apparel, secure documents, pharmaceuticals, wine, and luxury items. Applied DNA's pipeline may include 50 to 60 projects at any time.
- SigNature® DNA incorporates botanically derived DNA taggants, called markers, into products as unique, traceable identification systems. The SigNature® DNA solution consists of three steps: (1) creating and encapsulating an encrypted DNA segment or marker; (2) applying the marker to a product or material; and (3) detecting the presence and authenticating the specific DNA marker. Key to this embedding technology is its ability to integrate markers directly into products and various carriers and media, such as special inks, dyes, glue, or textile treatments.
- Cashield™ is a family of cash degradation dyes for the CViT industry that includes six dyes: AzSure® Blue, Green, Violet, Red, Teal, and Indigo. Color options allow cash carriers to differentiate by customers, regions, or other parameters. These dyes, characterized by intense fluorescence, are designed to better penetrate notes packed in tight stacks and to have improved wash-out resistance than competitive security inks. Cashield™ is LNE certified, and studies with Cashield™ inks have determined that they are safe, non-reactive, and maintain a favorable risk and safety profile that meets safety regulations for road, rail, sea, and air transport.
- DNANet™ entails a group of recently developed tactical DNA products for law enforcement in the form of DNA-marked sprays and liquids marketed to global police forces. Intended to help link criminals to crimes, DNANet™ is a tactical forensic system providing unique DNA codes for covert operations that require absolute proof of authentication.
- RapiDNA™ is the integration of DNA and Magneto-Optical marking technologies to create a secure, machine-readable, forensic authentication system that protects brands and customers and convicts counterfeiters. Unique Magneto-Optical markers make tracking and screening activities quick and secure, as wireless devices can read and transmit mark data for instant authentication. Further integration with brand-owner databases may enable comprehensive supply chain management and enhanced sales data collection. The use of DNA benefits the RapiDNA™ system since DNA has international court acceptance, which may strengthen brand owners' positions against counterfeiters.
- BioMaterial Genotyping™ offers a means for determining the authenticity of natural materials used in finished products by detecting and identifying their genomic DNA. Its applications are broad and include anything that is biological in nature, including but not limited to, textiles and apparel, consumables, nutraceuticals, and biotherapeutics.

- Applied DNA's platforms provide several advantages over competitive alternatives: (1) a resistance to replication; (2) forensic capabilities; (3) absoluteness (e.g., low error rates); and (4) affordability.

- Since January 2008, Applied DNA has worked with Loomis UK, a cash-handling company that moves over £150 billion in cash annually. Since that time, Applied DNA has gradually increased its market share of the taggants used by the UK CViT industry to over 30%.

- The forensic value of SigNature® DNA's CViT offerings have been demonstrated in the UK on multiple occasions. In February 2010, forensic evidence, including SigNature® DNA-marked stolen cash from Loomis' cash boxes, was used to link suspects to a crime spree spanning 23 CViT crimes, leading to prison terms of over 21 years. To date, the Company has successfully authenticated evidence in 35 CViT cases from multiple UK police departments, with a 100% success rate thus far in confirming dye-stained stolen goods. Thirteen individuals have been convicted through the help of SigNature® DNA markers.

- Altogether, Applied DNA's customers have experienced a 49% reduction in losses as a result of CViT offenses year-over-year versus the UK industry as a whole, which experienced a 34% decrease.

- Applied DNA is focused on developing strategic alliances with industry sector leaders, industry organizations, and technology partners to expand and improve the use of its anti-counterfeiting solutions. Through these alliances, the Company expects to strengthen and complement its security platforms as well as to penetrate new markets and grow its customer base.

- The Company has responded to requests for proposals from customers whose requirements are many orders of magnitude larger than its routine requests. For example, Applied DNA has successfully marked over 500,000 pounds of raw cotton fiber for a manufacturer that has annual production in excess of 420 million pounds per year.

- Through the use of its BioMaterial Genotyping™ technology, Applied DNA has collaborated with the premium cotton industry to differentiate between biological strains of cotton, has distinguished the genetic signature of the raw materials used in currency manufacturing to verify paper notes, and has identified the signature of cellulose paper used in British and American currency, which could be used in the authentication of original financial documents.

- Partnered with Supima®, the Company developed two DNA processes to authenticate the fiber content and geographic origin of finished premium cotton textiles to help preserve the Supima® brand reputation and ensure the quality of products manufactured throughout the supply chain. These processes can authenticate other premium fibers, such as Egyptian Giza, Peruvian, Sea Island, and Israeli cotton.

- Applied DNA's leadership possesses audit trail, sales management, initial public offering (IPO), and licensing opportunities experience. These individuals are closely invested in the Company. Dr. James Hayward, president and chief executive officer (CEO), has a personal financial commitment to the Company totaling over $3 million.

- Applied DNA holds 14 issued patents, 13 provisional patents, and 8 pending patents, as well as both registered and pending trademarks.

- At June 30, 2010, the Company's cash and cash equivalents were $21,566. Subsequently, in July 2010, Applied DNA sold an aggregate of $1.1 million of Convertible Notes in a private placement transaction. The Company has also entered into an engagement letter with an investment bank to pursue additional financing through the sale of equity or debt securities.

Historical Financial Results

Tables 10, 11, and 12 summarize Applied DNA's key historical financial statements—its Condensed Consolidated Statements of Operations, Balance Sheets, and Statements of Cash Flows as of its most recently reported period, ended June 30, 2010. As reported in the Company's Form 10-Q filed with the SEC on August 13, 2010, during the nine months ended June 30, 2010, Applied DNA issued 39,461,640 shares of Common Stock in exchange for settlement of an aggregate of $1.25 million related party Convertible Promissory Notes and accrued interest.

Table 10
Applied DNA Sciences, Inc.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)

	Three Months Ended June 30,		Nine Months Ended June 30,	
	2010	2009	2010	2009
Sales	$ 170,195	$ 22,925	$ 430,185	$ 234,170
Cost of sales	(19,658)	(2,521)	(48,128)	(54,856)
Gross Profit	150,537	20,404	382,057	179,314
Operating expenses:				
Selling, general, and administrative	2,510,119	982,945	5,315,087	5,430,490
Research and development	18,142	28,306	44,944	131,695
Depreciation and amortization	92,823	104,818	278,619	319,445
Total operating expenses	2,621,084	1,116,069	5,638,650	5,881,630
LOSS FROM OPERATIONS	(2,470,547)	(1,095,665)	(5,256,593)	(5,702,316)
Other income	—	—	—	12,023,888
Interest expense, net	(126,388)	(234,940)	(537,252)	(929,991)
Net (loss) income before provision for income taxes	(2,596,935)	(1,330,605)	(5,793,845)	5,391,581
Income taxes (benefit)	—	—	—	572
NET (LOSS) INCOME	$ (2,596,935)	$ (1,330,605)	$ (5,793,845)	$ 5,391,009
Net (loss) income per share-basic	$ (0.01)	$ (0.01)	$ (0.02)	$ 0.02
Net (loss) income per share-fully diluted	$ (0.00)	$ (0.01)	$ (0.02)	$ 0.02
Weighted average shares outstanding-				
Basic	301,362,329	261,343,763	287,448,792	245,162,159
Fully diluted	301,362,329	261,343,763	287,448,792	291,705,369

Source: Applied DNA Sciences, Inc.

Table 11

Applied DNA Sciences, Inc.

CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 2010 (unaudited)	September 30, 2009
ASSETS		
Current assets:		
Cash and cash equivalents	$ 21,566	$ 213,307
Accounts receivable	57,068	47,302
Prepaid expenses	102,657	79,436
Total current assets	181,291	340,045
Property, plant, and equipment-net of accumulated depreciation of $204,750 and $199,119, respectively	6,112	11,743
Other assets:		
Deposits	8,322	8,322
Capitalized finance costs-net of accumulated amortization of $773,778 and $615,611, respectively	96,222	146,389
Intangible assets:		
Patents, net of accumulated amortization of $34,257 and $34,112, respectively	—	145
Intellectual property, net of accumulated amortization and write off of $8,703,317 and $8,430,474, respectively	727,583	1,000,426
Total Assets	$ 1,019,530	$ 1,507,070
LIABILITIES AND DEFICIENCY IN STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	$ 1,234,684	$ 843,491
Convertible Notes payable, net of unamortized discount of $54,666 and $319,589	1,645,334	2,410,411
Total current liabilities	2,880,018	3,253,902
Long-term debt:		
Convertible Note payable-related party, net of unamortized discount of $18,847	656,153	—
Commitments and contingencies	—	—
Deficiency in Stockholders' Equity		
Preferred Stock, par value $0.001 per share; 10,000,000 shares authorized; -0- issued and outstanding as of June 30, 2010 and September 30, 2009	—	—
Common Stock, par value $0.001 per share; 800,000,000 shares authorized; 333,588,253 and 275,204,070 issued and outstanding as of June 30, 2010 and September 30, 2009, respectively	333,588	275,204
Additional paid in capital	146,375,319	141,409,667
Accumulated deficit	(149,225,548)	(143,431,703)
Total deficiency in stockholders' equity	(2,516,641)	(1,746,832)
Total Liabilities and Deficiency in Stockholders' Equity	$ 1,019,530	$ 1,507,070

Source: Applied DNA Sciences, Inc.

Table 12
Applied DNA Sciences, Inc.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	Nine months ended June 30, 2010	2009
Cash flows from operating activities:		
Net (loss) income	$ (5,793,845)	$ 5,391,009
Adjustments to reconcile net (loss) income to net cash used in operating activities:		
Depreciation and amortization	278,619	319,445
Reversal of accrued penalty charges	—	(12,023,888)
Fair value of vested Options issued to officers, directors, and employees	1,969,483	2,451,677
Amortization of capitalized financing costs	158,167	121,666
Amortization of debt discount attributable to Convertible Debentures	335,342	796,932
Stock-based compensation	956,438	403,959
Common Stock issued in settlement of interest	102,794	—
Change in assets and liabilities:		
(Increase) decrease in accounts receivable	(9,766)	58,725
(Increase) decrease in prepaid expenses and deposits	(23,221)	160,533
Increase in accounts payable and accrued liabilities	497,248	483,408
Net cash used in operating activities	(1,528,741)	(1,836,533)
Cash flows from investing activities:		
Increase in restricted cash held in escrow	—	—
Net cash used in investing activities	—	—
Cash flows from financing activities:		
Net proceeds from issuance of Convertible Notes	1,337,000	1,717,500
Net cash provided by financing activities	1,337,000	1,717,500
Net decrease in cash and cash equivalents	(191,741)	(119,033)
Cash and cash equivalents at beginning of period	213,307	136,405
Cash and cash equivalents at end of period	$ 21,566	$ 17,372
Supplemental Disclosures of Cash Flow Information:		
Cash paid during period for interest	$ —	$ —
Cash paid during period for taxes	$ —	$ —
Non-cash transactions:		
Common Stock issued in exchange for previously incurred debt	$ 1,800,000	$ 3,740,000

Source: Applied DNA Sciences, Inc.

Risks

Some of the information in this Executive Informational Overview® (EIO®) relates to future events or future business and financial performance. Such statements can only be predictions and the actual events or results may differ from those discussed due to the risks described in Applied DNA's statements on Forms 10-K, 10-Q, and 8-K, as well as other forms filed from time to time. In addition, the content of this report with respect to Applied DNA has been compiled primarily from information available to the public released by the Company through news releases, Annual Reports, and SEC filings. Applied DNA is solely responsible for the accuracy of this information. Information as to other companies has been prepared from publicly available information and has not been independently verified by Applied DNA. Certain summaries of activities have been condensed to aid the reader in gaining a general understanding. For more complete information about Applied DNA, please refer to the Company's website at www.adnas.com.

Investors should carefully consider the risks and information about Applied DNA's business described below. Investors should not interpret the order in which these considerations are presented as an indication of their relative importance. The risks and uncertainties described below are not the only risks that the Company faces. Additional risks and uncertainties not presently known to Applied DNA or that the Company currently believes to be immaterial may also adversely affect its business. If any of the following risks and uncertainties develops into actual events, the business, financial condition, and results of operations could be materially and adversely affected, and the trading price of the Company's shares could decline.

RISKS RELATING TO APPLIED DNA'S BUSINESS

The Company has a short operating history, a relatively new business model, and has not produced significant revenues. This makes it difficult to evaluate its future prospects and increases the risk that Applied DNA will not be successful.

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

The Company has a history of losses from operations that may continue and that may harm its ability to obtain financing and continue operations.

Applied DNA incurred net operating losses of $6.9 million for the year ended September 30, 2009, and $4.2 million for the year ended September 30, 2008. These net losses have principally been the result of the various costs associated with selling, general, and administrative expenses as the Company commenced operations; acquired, developed, and validated technologies; began marketing activities; and incurred interest expense on Notes and Warrants issued to obtain financing. The Company's operations are subject to the risks and competition inherent in a company that moved from the development stage to an operating company. Applied DNA may not generate sufficient revenues from operations to achieve or sustain profitability on a quarterly, annual, or any other basis in the future. The Company's revenues and profits, if any, will depend upon various factors, including whether existing products and services or any new products and services developed will achieve any level of market acceptance. If the Company continues to incur losses, its accumulated deficit will continue to increase, which might significantly impair its ability to obtain more financing. As a result, its business, results of operations, and financial condition would be significantly harmed, and Applied DNA may be required to reduce or terminate operations.

Applied DNA will require additional financing that may require the issuance of additional shares, which would dilute the ownership held by stockholders; the Company may not have enough additional shares to issue.

Applied DNA will need to raise funds through either debt or the sale of shares in order to achieve business goals. Any shares issued would further dilute the percentage ownership held by the stockholders. Furthermore, if the Company raises funds in equity transactions through the issuance of convertible securities that 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 shares. In addition, the Company may not have sufficient authorized shares of Common Stock under its certificate of incorporation to raise additional funds through the issuance of equity or convertible debt securities.

As reported in Applied DNA's Form 10-Q filed on August 13, 2010, in order to improve liquidity, the Company has entered into an engagement letter with an investment bank to pursue additional financing through the sale of equity or debt securities. There can be no assurance that the Company will be successful in its effort to secure such financing.

If the Company is unable to obtain additional financing, its business operations will be harmed or discontinued. If it does obtain additional financing, stockholders may suffer substantial dilution.

Applied DNA believes that existing capital resources will enable it to fund operations until approximately December 2010. Applied DNA believes it will be required to seek additional capital to sustain or expand its prototype and sample manufacturing, and sales and marketing activities, and to otherwise continue business operations beyond that date. The Company has no commitments for any future funding, and may not be able to obtain additional financing or grants on terms acceptable to it, if at all, in the future. If the Company is unable to obtain additional capital, this would restrict its ability to grow and may require it to curtail or discontinue business operations. Additionally, while a reduction in business operations may prolong Applied DNA's ability to operate, that reduction would harm its ability to implement business strategy. If the Company can obtain any equity financing, it may involve substantial dilution to then existing stockholders.

The Company's independent auditors have expressed substantial doubt about its ability to continue as a going concern, which may hinder its ability to obtain future financing.

In a report dated December 23, 2009, Applied DNA's independent auditors stated that the Company's financial statements for the year ended September 30, 2009, were prepared assuming that the Company would continue as a going concern, and that they have substantial doubt about its ability to continue as a going concern. The Company's auditors' doubts are based on Applied DNA's negative working capital of $2.9 million, recurring net loss from operations of $6.9 million, and capital deficiency of $1.7 million for the year ended September 30, 2009. Applied DNA continues to experience net operating losses. The Company's ability to continue as a going concern is subject to its ability to generate a profit and/or obtain necessary funding from outside sources, including the sale of securities, obtaining loans from financial institutions, or obtaining grants from various organizations or governments, where possible. The Company's continued net operating losses and auditors' doubts increase the difficulty of its meeting such goals and its efforts to continue as a going concern may not prove successful.

General economic conditions and the current global financial crisis may adversely affect Applied DNA's business, operating results, and financial condition.

The current global economy and economic slowdown may have serious negative consequences for Applied DNA's business and operating results. Since its customers incorporate its products into a variety of consumer goods, the demand for its 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 based on recent severe market declines, 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 the Company's products may weaken, and current or potential customers may defer purchases of its products.

The recent distress in the credit and financial markets has also resulted in extreme volatility in security prices and diminished liquidity, and there can be no assurance that the Company's liquidity will not be affected by changes in the financial markets and the global economy. Moreover, the current 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 Applied DNA to obtain, or increase the cost of obtaining, capital and financing for operations. The Company's access to additional capital may not be available on terms acceptable to it or at all.

If Applied DNA's existing products and services are not accepted by potential customers or the Company fails to introduce new products and services, its business, results of operations, and financial condition will be harmed.

There has been limited market acceptance of Applied DNA's botanical DNA encryption, encapsulation, embedment, and authentication products and services to date. Some of the factors that will affect whether the Company achieves market acceptance of its solutions include the following:

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

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

Rapid technological changes and frequent new product introductions are typical for the markets the Company serves. The Company's future success may depend in part on continuous, timely development and introduction of new products that address evolving market requirements. Applied DNA believes 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 it fails to introduce new and innovative products, the Company may lose any market share it then has to 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 growth rate or damage business. Applied DNA may experience delays in the development and introduction of products. Applied DNA 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 it may not meet the requirements of the marketplace or achieve market acceptance.

If the Company is unable to retain the services of Drs. Hayward or Liang, it may not be able to continue operations.

The Company's success depends to a significant extent upon the continued service of Dr. James A. Hayward, director, president, and CEO; and Dr. Benjamin Liang, secretary and strategic technology development officer. Applied DNA does not have employment agreements with Drs. Hayward or Liang. Loss of the services of Drs. Hayward or Liang could significantly harm business, results of operations, and financial condition. Applied DNA does not maintain key-man insurance on the lives of Drs. Hayward or Liang. During fiscal 2009, Dr. Hayward provided $1.5 million in loans to the Company. In the absence of any other financing, curtailment of cash investments by Dr. Hayward could harm Applied DNA's cash availability and its ability to fund operations.

The markets for the Company's anti-counterfeiting and product authentication solutions are very competitive. It may be unable to continue to compete effectively in these industries in the future.

The principal markets for Applied DNA's anti-counterfeiting and product authentication solutions are intensely competitive. Many of its competitors, both in the U.S. 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 the Company. Any of these companies could succeed in developing products that are more effective than the products that Applied DNA has or may develop and may be more successful than Applied DNA in producing and marketing existing products. Some competitors that operate in the anti-counterfeiting and fraud prevention markets include the following: Authentix, Collectors Universe Inc., Data Dot Technology, Digimarc Corp., DNA Technologies, Inc., ID Global, Informium AG, Inksure Technologies, Kodak, L-1 Identity Solutions, Manakoa, OpSec Security Group, SmartWater Technology, Inc., Sun Chemical Corp, and Tracetag. Applied DNA expects this competition to continue and to intensify in the future. Competition in its markets is primarily driven by the following:

- 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 the Company's products, its business, financial condition, and results of operations could be significantly harmed.

Applied DNA needs to expand sales, marketing, and support organizations and distribution arrangements to increase market acceptance of products and services.

Applied DNA currently has few sales, marketing, customer service, and support personnel and will need to increase this 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 this industry is very competitive, and Applied DNA may not be able to hire the kind and number of sales, marketing, customer service, and support personnel that it is targeting. The Company's inability to hire qualified sales, marketing, customer service, and support personnel may harm its business, operating results, and financial condition. Applied DNA does not currently have any arrangements with any distributors and may not be able to enter into arrangements with qualified distributors on acceptable terms or at all. If the Company is not able to develop greater distribution capacity, it may not be able to generate sufficient revenue to support operations.

A manufacturer's inability or willingness to produce Applied DNA's goods on time and to the Company's specifications could result in lost revenue and net losses.

Though the Company manufactures prototypes, samples, and some of its own products, it currently does not own or operate any significant manufacturing facilities and depends upon independent third parties for the manufacture of some products to its specifications. The inability of a manufacturer to ship orders of such products in a timely manner or to meet quality standards could cause Applied DNA to miss the delivery date requirements of its customers for those items, which could result in cancellation of orders, refusal to accept deliveries, or a reduction in purchase prices, any of which could harm business by resulting in decreased revenues or net losses upon sales of products, if any sales could be made.

If the Company needs to replace manufacturers, its expenses could increase, resulting in smaller profit margins.

Applied DNA competes for the production capacity of manufacturers and import quota capacity. Some competitors have greater financial and other resources, and thus may have an advantage in the competition for production and import quota capacity. If the Company experiences a significant increase in demand, or if its existing manufacturers must be replaced, it will need to establish new relationships with another or multiple manufacturers. Applied DNA cannot assure investors that this additional third-party manufacturing capacity will be available when required on terms that are acceptable or terms similar to those with existing manufacturers, either from a production or a financial standpoint. Applied DNA does not have long-term contracts with its manufacturers, and its manufacturers do not produce the Company's products exclusively. Should Applied DNA be forced to replace manufacturers, it 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 products to customers, which could cause the Company to lose customers or lose revenues because of late shipments.

If a manufacturer fails to use acceptable labor practices, Applied DNA may have shipment delays or face joint liability for violations, resulting in decreased revenue and increased expenses.

While the Company requires its independent manufacturers to operate in compliance with applicable laws and regulations, it has no control over their ultimate actions. While internal and vendor operating guidelines promote ethical business practices and the Company's staff and buying agents periodically visit and monitor the operations of independent manufacturers, Applied DNA does not control these manufacturers or their labor practices. The violation of labor or other laws by independent manufacturers, or by one of the Company's licensing partners, or the divergence of an independent manufacturer's or licensing partner's labor practices from those generally accepted as ethical in the U.S., could interrupt, or otherwise disrupt, the shipment of finished products to the Company or damage its reputation. Any of these, in turn, could have a material adverse effect on financial condition and results of operations, such as the loss of potential revenue and incurring additional expenses.

Failure to license new technologies could impair sales of existing products or any new product development Applied DNA undertakes 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 the Company's employees. As a result, Applied DNA believes its ability to license new technologies from third parties is and will continue to be important to its ability to offer new products. In addition, from time to time, Applied DNA is notified or becomes aware of patents held by third parties that are related to technologies Applied DNA is selling or may sell in the future. After a review of these patents, the Company may decide to seek a license for these technologies from third parties. There can be no assurance that Applied DNA will be able to successfully identify new technologies developed by others. Even if the Company is able to identify new technologies of interest, Applied DNA may not be able to negotiate a license on favorable terms, or at all. If Applied DNA loses the rights to patented technology, it may need to discontinue selling certain products or redesign products, and it may lose a competitive advantage. Potential competitors could license technologies that Applied DNA fails to license and potentially erode market share for certain products. Intellectual property licenses would typically subject the Company to various commercialization, sublicensing, minimum payment, and other obligations. If Applied DNA fails to comply with these requirements, it could lose important rights under a license. In addition, certain rights granted under the license could be lost for reasons beyond its control, and Applied DNA may not receive significant indemnification from a licensor against third-party claims of intellectual property infringement.

The Company's failure to manage growth in operations and acquisitions of new product lines and new businesses could harm business.

Growth in operations, if any, will place a significant strain on current management resources. To manage such growth, Applied DNA would need to improve the following:

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

The Company's future growth, if any, may be attributable to acquisitions of new product lines and new businesses. 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 net income. The Company's failure to manage growth or future acquisitions successfully could seriously harm operating results. Also, acquisition costs could cause quarterly operating results to vary significantly. Furthermore, stockholders would be diluted if Applied DNA financed the acquisitions by incurring convertible debt or issuing securities. Although Applied DNA currently only has operations in the U.S., if it were to acquire an international operation, it would face additional risks, including the following:

- difficulties in staffing, managing, and integrating international operations due to language, cultural, or other differences;
- different or conflicting regulatory or legal requirements;
- foreign currency fluctuations; and
- diversion of significant time and attention of management.

Failure to attract and retain qualified personnel could harm 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 success. In addition, desired growth and expansion into areas and activities requiring additional expertise, such as clinical testing, government approvals, production, 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 Applied DNA competes is very competitive, the Company faces significant challenges attracting and retaining a qualified personnel base. Although Applied DNA believes that it has been and will be able to attract and retain these personnel, it 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 business since the Company's ability to conduct business development and manufacturing will be reduced or eliminated, resulting in lower revenues. Applied DNA generally does not enter into employment agreements requiring employees to continue in employment for any period of time.

The Company's intellectual property rights are valuable, and any inability to protect them could reduce the value of its products, services, and brand.

Patents, trademarks, trade secrets, copyrights, and other intellectual property rights are important assets. There are events outside of the Company's control that pose a threat to intellectual property rights as well as to products and services. For example, effective intellectual property protection may not be available in every country in which products and services are distributed. The efforts Applied DNA has taken to protect proprietary rights may not be sufficient or effective. Any significant impairment of intellectual property rights could harm business or the Company's ability to compete. Protecting intellectual property rights is costly and time consuming. Any increase in the unauthorized use of intellectual property could make it more costly to do business and harm operating results. Although Applied DNA seeks to obtain patent protection for its innovations, it is possible Applied DNA may not be able to protect some of these innovations. Given the costs of obtaining patent protection, Applied DNA 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 its issued patents will be insufficient or deemed invalid or unenforceable. Applied DNA also seeks to maintain certain intellectual property as trade secrets. The secrecy could be compromised by third parties, or intentionally or accidentally by employees, which would cause the Company to lose the competitive advantage resulting from these trade secrets.

Intellectual property litigation could harm business.

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

If a third party claims an intellectual property right to technology Applied DNA uses, the Company might need to discontinue an important product or product line, alter products and processes, pay license fees or cease affected business activities. Although Applied DNA might under these circumstances attempt to obtain a license to this intellectual property, it may not be able to do so on favorable terms, or at all. Furthermore, a third party may claim that Applied DNA is using inventions covered by the third party's patent rights and may go to court to stop it from engaging in normal operations and activities, including making or selling product candidates. These lawsuits are costly and could affect results of operations and divert the attention of managerial and technical personnel. A court may decide that Applied DNA is infringing the third party's patents and would order the Company to stop the activities covered by the patents. In addition, a court may order the Company 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 the Company, 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 Applied DNA is sued for patent infringement, it would need to demonstrate that its 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 Applied DNA 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 U.S. may be maintained in secrecy until the patents are issued, because patent applications in the U.S. and many foreign jurisdictions are typically not published until 18 months after filing, and because publications in the scientific literature often lag behind actual discoveries, Applied DNA cannot be certain that others have not filed patent applications for technology covered by it or its licensor's issued patents or pending applications or that Applied DNA or its licensors were the first to invent the technology. The Company's competitors may have filed, and may in the future file, patent applications covering technology similar to its own. Any such patent application may have priority over its or its licensors' patent applications and could further require the Company to obtain rights to issued patents covering such technologies. If another party has filed a U.S. patent application on a similar invention, Applied DNA may have to participate in an interference proceeding declared by the USPTO to determine priority of invention in the U.S. The costs of these proceedings could be substantial, and it is possible that such efforts would be unsuccessful, resulting in a loss of the Company's U.S. patent position with respect to such inventions.

Some competitors may be able to sustain the costs of complex patent litigation more effectively than Applied DNA 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 the Company's ability to raise the funds necessary to continue operations.

Accidents related to hazardous materials could adversely affect business.

Some of the Company's operations require the controlled use of hazardous materials. Although Applied DNA believes its 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, Applied DNA could be liable for any damages that result, which could seriously damage business and results of operations.

Potential product liability claims could affect earnings and financial condition.

Applied DNA faces a potential risk of liability claims based on products and services, and Applied DNA has faced such claims in the past. Though Applied DNA has product liability insurance coverage which it believes is adequate, the Company may not be able to maintain this insurance at reasonable cost and on reasonable terms. Applied DNA also cannot ensure that this insurance, if obtained, will be adequate to protect against a product liability claim, should one arise. In the event that a product liability claim is successfully brought against the Company, it could result in a significant decrease in liquidity or assets, which could result in the reduction or termination of business.

Litigation generally could affect the Company's financial condition and results of operations.

Applied DNA 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, and vendors and service providers. The Company has faced such claims and litigation in the past and cannot assure that it will not be subject to claims in the future. In the event that a claim is successfully brought against the Company, considering its lack of material revenue and the losses its business has incurred for the period from inception to June 30, 2010, this could result in a significant decrease in liquidity or assets, which could result in the reduction or termination of business.

Applied DNA was obligated to pay liquidated damages as a result of its failure to have its registration statement declared effective prior to June 15, 2005, and any payment of liquidated damages will either result in depletion of limited working capital or issuance of shares of Common Stock, which would cause dilution to existing stockholders.

Pursuant to the terms of a registration rights agreement with respect to Common Stock underlying Convertible Notes and Warrants Applied DNA issued in private placements in November and December 2003, December 2004, and January and February 2005, for each month after June 15, 2005, that Applied DNA did not have a registration statement registering the shares underlying these Convertible Notes and Warrants declared effective, Applied DNA was obligated to pay liquidated damages in the amount of 3.5% per month of the face amount of the Notes, an amount equal to $367,885. On July 24, 2008, the SEC declared effective the Company's registration statement with respect to Common Stock underlying Convertible Notes and Warrants Applied DNA issued in private placements in November and December 2003, December 2004, and January and February 2005. At the Company's option, these liquidated damages can be paid in cash or unregistered shares of Common Stock. To date, Applied DNA has decided to pay certain of these liquidated damages in Common Stock, although any future payments of liquidated damages may, at the Company's option, be made in cash. If Applied DNA decides to pay such liquidated damages in cash, it would be required to use its limited working capital and potentially raise additional funds. If Applied DNA decides to pay the liquidated damages in shares of Common Stock, the number of shares issued would depend on its stock price at the time that payment is due. Based on the closing market prices of $0.66, $0.58, $0.70, $0.49, $0.32, and $0.20 for its Common Stock on July 15, 2005, August 15, 2005, September 15, 2005, October 17, 2005, November 15, 2005, and December 15, 2005, respectively, Applied DNA issued a total of 3,807,375 shares of Common Stock in liquidated damages from August 2005 to January 2006 to persons who invested in the January and February 2005 private placements. The issuance of shares upon any payment by the Company of further liquidated damages will have the effect of further diluting the proportionate equity interest and voting power of holders of its Common Stock.

Applied DNA paid liquidated damages in the form of Common Stock only for the period from June 15, 2005, to December 15, 2005, and only to persons who invested in the January and February 2005 private placements. Applied DNA believes that it has no enforceable obligation to pay liquidated damages to holders of any shares it agreed to register under the registration rights agreement for periods after the first anniversary of the date of issuance of such shares, since they were eligible for resale under Rule 144 of the Securities Act during such periods, and such liquidated damages are grossly inconsistent with actual damages to such persons. Nonetheless, as of September 30, 2009, Applied DNA has accrued approximately $12.0 million in penalties representing further liquidated damages associated with its failure to have the registration statement declared effective by the deadline, and has included this amount in accounts payable and accrued expenses. As of September 30, 2009, Applied DNA concluded that the payment of liquidated damages under these commitments was not probable. Accordingly, Applied DNA reversed the accrued expenses for the potential liquidated damages of $12.0 million as other income in the statement of operations during the year ended September 30, 2009.

Applied DNA voluntarily reported a matter to the SEC.

During the months of March, May, July, and August 2005, Applied DNA issued a total of 8,550,000 shares of Common Stock to certain employees and consultants pursuant to the 2005 Incentive Stock Plan. Applied DNA engaged outside counsel to conduct an investigation of the circumstances surrounding the issuance of these shares. On April 26, 2006, Applied DNA voluntarily reported the findings from this investigation to the SEC, and agreed to provide the SEC with further information arising from the investigation. Applied DNA believes that the issuance of 8,000,000 shares to employees in July 2005 was effectuated by both its former president and former CFO/COO without approval of the Board of Directors. These former officers received a total of 3,000,000 of these shares. In addition, it appears that the 8,000,000 shares issued in July 2005, as well as an additional 550,000 shares issued to employees and consultants in March, May, and August 2005, were improperly issued without a restrictive legend stating that the shares could not be resold legally except in compliance with the Securities Act of 1933, as amended. The members of the Company's management who effectuated the stock issuances no longer work for the Company. These shares were not registered under the Securities Act of 1933, or the securities laws of any state, and Applied DNA believes that certain of these shares may have been sold on the open market, though Applied DNA has been unable to determine the magnitude of such sales. Since its voluntary report of the findings of its internal investigation to the SEC on April 26, 2006, Applied DNA has received no communication from the SEC or any third party with respect to this matter. If violations of securities laws occurred in connection with the resale of certain of these shares, the employees and consultants or persons who purchased shares from them may have rights to have their purchase rescinded or other claims against the Company for violation of securities laws, which could harm Applied DNA's business, results of operations, and financial condition.

As of the date of Applied DNA's most recent Form 10-Q (August 13, 2010), the Company was not aware of any alleged specific violation or the likelihood of any claim. There can be no assurance that litigation asserting such claims will not be initiated, or that the Company would prevail in any such litigation.

RISKS RELATING TO THE COMPANY'S COMMON STOCK

There are a large number of shares underlying the Company's Options and Warrants that may be available for future sale and the sale of these shares may depress the market price of its Common Stock and will cause immediate and substantial dilution to existing stockholders.

As of December 18, 2009, Applied DNA had 275,204,070 shares of Common Stock issued and outstanding and outstanding Options and Warrants to purchase 100,917,000 shares of Common Stock, except for shares issuable upon exercise of options held by "affiliates" as defined in Rule 144 under the Securities Act of 1933. All of the shares issuable upon exercise of the Company's Options and Warrants may be sold without restriction. The sale of these shares may adversely affect the market price of its Common Stock. The issuance of shares upon exercise of Options and Warrants will cause immediate and substantial dilution to the interests of other stockholders since the selling stockholder may convert and sell the full amount issuable on exercise.

If Applied DNA fails to remain current on reporting requirements, it could be removed from the Over-the-Counter Bulletin Board (OTC.BB), which would limit the ability of broker-dealers to sell the Company's securities and the ability of stockholders to sell securities in the secondary market.

Companies trading on the OTC.BB, such as the Company, must be reporting issuers under Section 12 or Section 15(d) of the Securities Exchange Act of 1934, as amended, and must be current in their reports under Section 13, in order to maintain price quotation privileges on the OTC.BB. If Applied DNA fails to remain current on reporting requirements, Applied DNA could be removed from the OTC.BB. As a result, the market liquidity for its securities could be severely adversely affected by limiting the ability of broker-dealers to sell securities and the ability of stockholders to sell their securities in the secondary market. Prior to May 2001, Applied DNA was delinquent in reporting requirements, having failed to file its quarterly and annual reports for the years ended 1998–2000 (except the quarterly reports for the first two quarters of 1999). While the Company has recently been current in reporting requirements, there can be no assurance that in the future it will always be current in reporting requirements.

The Company's Common Stock is subject to the "penny stock" rules of the SEC and the trading market in its securities is limited, which makes transactions in its stock cumbersome and may reduce the value of an investment.

The SEC has adopted Rule 15g-9, which establishes the definition of a penny stock (for the purposes relevant to the Company) 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 the following:

- that a broker or dealer approve a person's account for transactions in penny stocks; and
- that the broker or dealer receives 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 that 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 as well as 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 Common Stock and cause a decline in the market value of the Company's 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.

Recent Events

An overview of the Company's recent events is provided below, referring the reader to Applied DNA's website for complete press releases (www.adnas.com). In addition to the press releases summarized below, Applied DNA has recently been featured in a variety of news and other third-party venues, including the *Yorkshire Post*, *Yorkshire Evening Post*, *Vanguard Newsflash*, the *Economist*, and *Anticounterfeiting and Brand Protection* (a white paper from Imperial Capital, LLC), among many other outlets. Summaries of these articles and interviews are available on the Company's website.

10/13/2010—Applied DNA Sciences, Inc. announced that under the terms of a five-year agreement with an exclusive European luxury brand, the Company expected to receive a minimum of $8.7 million for supplying proprietary botanical DNA Authentication codes custom-made for the brand-owner's customers, in order to maintain exclusivity on the agreement in the specified field.

09/28/2010—The Company announced a working partnership with Vice Admiral Edward M. Straw (biography on page 17).

09/15/2010—Applied DNA announced that it developed a technology utilizing botanical DNA to forensically identify microelectronics as a weapon to foil counterfeiters. As a Department of Energy (DOE) vetted technology, Applied DNA's marks offer a solution to the "growing deluge of millions of counterfeit chips posing peril to the U.S. military and the general public" (Source: Homeland Security Newswire, September 2010).

08/26/2010—The Company announced the launch of a new product line, called Cashield™, which is a family of cash degradation inks that permanently stain bank notes stolen from cash-handling or ATM systems. Cashield™ extends Applied DNA's offering beyond its prior singular product, a cash degradation dye called AzSure®, to a family of security inks that include Red, Violet, Green, Teal, Indigo, and the original AzSure® Blue. A study at the University of Leeds previously found the performance of AzSure® to be "best-in-industry." Applied DNA also announced that Cashield™ has been certified for use in the EU by the Laboratoire National de Métrologie et d'Essais (LNE).

08/05/2010—Applied DNA announced that, in partnership with the Lancashire Constabulary, it has received the Excellence in Policing Award, which was presented at the National Policing Improvement Agency's conference center at Ryton-on-Dunsmore on September 21, 2010. This award is designed to promote the sharing of creative and innovative projects that are enhancing performance and productivity for the overall benefit of the UK police.

07/20/2010—Applied DNA announced the supply of its SigNature® DNA markers to H.W. Sands Corp., which signed an exclusive agreement to mark custom poker chips and playing cards for an importer and manufacturer of these products, Palm Gaming International (PGI) of Daytona Beach, Florida. The initial purchase order has been received.

07/06/2010—The Company and H.W. Sands announced the signing of an agreement to jointly market and sell DNA security-based solutions to clients that are dedicated to protecting their products, supply chains, and end consumers from counterfeiting and diversion.

06/29/2010—Applied DNA announced that it successfully customized its first series of "DNA Suits" made in Yorkshire, UK. Each DNA suit was custom-made from woolen yarn then woven and finished into a pinstripe fabric and assembled by a master tailor. The DNA persists through multiple launderings, providing a definitive means to match the DNA mark to the suit. As part of the launch of the DNA Anti-Counterfeiting Program, the Company received its first order from the Textile Centre of Excellence as part of its participation in a multi-year contract funded by the European Regional Development Fund and Yorkshire Forward. The initiating order (approximately $50,000) commences a three-year government commitment of $1.5 million to the program.

06/24/2010—The Company and Bilcare Technologies, inventors of the nonClonableID™, announced a definitive agreement to market an integrated version of their technologies, RapiDNA™, to provide a novel, multi-layered security for brand protection, anti-counterfeiting, and logistic and provenance control.

05/04/2010—Applied DNA announced that FiberTyping™ was launched as a commercial assay that can be used to verify the fiber content of cotton products worldwide.

04/21/2010—The Company announced that the forensic strength of SigNature® DNA continues to prove instrumental in sending violent criminals to prison in the UK. The impact of SigNature® DNA has been notable in the cash-and-valuables-in-transit (CViT) industry where Applied DNA is working with Loomis UK. The latest sentencing, which was scheduled for mid-May 2010, occurred for a crime committed in December 2008 when a Loomis (CViT) employee was shot when making a delivery in Blackburn, Lancashire. At gunpoint, the employee gave the two robbers his cash box; however, when unable to give them access to the Loomis van, he was shot.

02/25/2010—Applied DNA announced that the forensic strength of SigNature® DNA was used again to send criminals to prison. Forensic evidence recovered from criminals, including SigNature® DNA-marked stolen cash from Loomis' cash boxes, was used to link the criminals to a crime spree spanning 23 CViT crimes. The use of SigNature® DNA technology was deemed critical in this case, as DNA-stained banknotes supplied the forensic evidence necessary to convict the three criminals for prison terms of over 21 years.

02/18/2010—Applied DNA and Safe Solution AB, a Swedish company, announced a three-year contract for Safe Solution to market and sell SigNature® DNA forensic products and AzSure® to the Scandinavian market. Safe Solution plans to initially introduce the Company's technology in the cash and banking sectors, with eventual expansion into other uses, such as domestic protection, cargo protection, and storage.

01/12/2010—The Company announced that it signed a supply agreement with Nissha Printing Co., Ltd., an international printing company headquartered in Asia. With a well-established sales force and an understanding of its international and regional customers, Nissha chose to work with Applied DNA in order to provide a high level of authenticity and quality of printed materials to its clientele. Nissha is using Applied DNA's Authentication Marks to protect its clients' products from counterfeiting and fraud. Applied DNA successfully completed a feasibility study for the company in 2009. Per the terms of the Supply Agreement, Applied DNA is scheduled to receive payments for each unique Authentication Mark purchased, with additional payments possible for authenticating the Marks.

01/07/2010—Applied DNA announced that it signed an exclusive supply agreement with a renowned luxury brand with global distribution, headquartered in Europe. In the agreement, the Company committed to supply proprietary DNA Authentication Marks exclusively for the brand-owner's customers. Applied DNA is scheduled to receive a fee for each unique Authentication Mark purchased, with additional fees paid to the Company for authentications. In exchange for exclusive rights in the specified field, the brand-owner agreed to minimum-volume purchases for each year of the agreement, which has an initial term of five years.

12/15/2009—The Company announced that it entered into an exclusive agreement with Swiss company Printcolor Screen Ltd. for the commercial production of AzSure®. Applied DNA initiated the development of AzSure® in response to demands for a more effective carrier for its SigNature DNA®, which leaves a forensic trail to stolen CViT boxes and is intended to result in the highest probability of conviction for CViT criminals.

12/10/2009—Applied DNA announced that SigNature® DNA was successfully used by the prosecution in a UK Court of Law as forensic evidence resulting in convictions of criminals involved in CViT crimes. The DNA evidence submitted to London's Metropolitan Police linked the suspects to the crime and left no room for reasonable doubt. The individuals were found with SigNature® DNA-marked notes and identical taggants on their clothing, skin, and mobile phones.

10/13/2009—The Company announced that it expanded its sales force to include a number of veteran industry and government consultants responsible for driving sales and strategic business initiatives throughout the U.S. and abroad. The new additions include Mr. Joseph L. Magno, who has expertise in government relations, Mr. Warren M. Pearlson, a veteran in pharmaceuticals, and others with experience in CViT, wine, textiles, and B2B technology commercialization. Biographies are provided on page 17.

10/01/2009—Applied DNA announced that its chief executive officer (CEO), Dr. James A. Hayward, was invited to present at the annual Homeland Security Investor Conference (HSIC) on October 21, 2009, in Washington, D.C. HSIC provides a platform where business leaders, investors, and government representatives can meet to develop opportunities that build growth.

09/29/2009—The Company announced the official launch of SigNature® DNA in Europe at CARTES & IDentification 2009 in Paris, France, an international show for technological innovation in the fields of identification, biometry, and authentication. Co-exhibiting with its strategic partner, Printcolor Screen, Applied DNA had the opportunity to present SigNature® DNA and the strength of its DNA authentication.

09/23/2009—Applied DNA announced that it can create botanical SigNature® DNA markers that individually mark valuables and rare limited edition collectibles requiring a forensic level of security and authentication. From paper to ink to the final product, DNA can leave a forensic trail to assure the origin and authenticity of an original marked product. Limited edition books, maps, fine art, and specialty inks and writing instruments can all utilize unique DNA markers.

09/21/2009—The Company announced that its anti-counterfeit technologies can be deployed in covert programs that seek to identify “leaks” in supply chains. Leakage out of the legitimate supply chain, called diversion, creates a gray market that devalues products. According to the Company, SigNature® DNA technology can track the path of supply chains in many industries.

09/03/2009—Applied DNA announced that it successfully incorporated its proprietary SigNature® DNA markers onto the surfaces of intact metal, with the potential to assign unique DNA sequences for each metal application. Counterfeit metal materials have been detected in everyday building and construction materials, electronic components, after-market car parts, public rail and bus transportation materials, and components used in military and commercial aircraft.

Glossary

Argon Laser—A laser with ionized argon as the active medium. In most lasers, an electric current is passed through a tube that contains an amplifying medium, usually a gas or solid material, which serves to intensify the energy.

Authentication—To establish the authenticity of a person, process, or product. To prove as genuine.

Capillary Electrophoresis (CE)—Solution- or gel-based electrophoresis performed in micro-glass capillaries. Electrophoresis is a technique for separating different types of molecules, usually proteins, based on their patterns of movement in an electrical field.

Cash-and-Valuables-in-Transit (CViT)—A term used to described currency in the process of being transported from one location to another. It includes activities such as cash transport, storage, and automated teller machine (ATM) operations.

Counterfeiting—Imitating items that are offered as genuine with the intent to deceive or defraud. To make a fraudulent replica.

Covert—Technologies that are invisible and, historically, were designed to be used by investigators, customs officials, and other law enforcement agents to verify authenticity.

Deoxyribonucleic Acid (DNA)—The physiological building block for all living organisms. This chemical substance, which is responsible for performing cellular tasks and carrying genetic information, represents the major component in the formation of chromosomes.

Diversion—Also called “parallel trading” or “gray market commerce.” It involves the selling of goods in a geographic market where both wholesale and retail prices are high, while falsely purchasing them for another market where wholesale prices are lower, thus taking advantage of the price disparity.

Extra Long Staple Cottons—See *Pima Cotton.*

False Positives—An incorrect result of a test that erroneously detects something that is not present.

Halal—In Arabic, the word halal means permitted or lawful. Halal foods are foods that are allowed under Islamic dietary guidelines.

Hologram—Holography is a three-dimensional imaging technique. It uses laser light to record the patterns of light waves reflected from an object onto the emulsion of light-sensitive film (or glass plates). When that film is developed, and re-exposed to laser light (or normal incandescent light like most holograms today), it re-creates**—**in space**—**all the points of light that originally came from the object. Holograms are commonly used as a security marker for credit cards, currency, and CDs.

Intaglio—Intaglio printing, also called recess printing, is a printing technique used to inhibit forgery by distorting the paper surface into two or more levels. Printing plates are covered with ink and then forced, under extremely heavy pressure, into the finely recessed lines of the printing plate to pick up the ink. The printing impression is three-dimensional in effect.

International Criminal Police Organization (Interpol)—The International Criminal Police Organization is a law agency facilitating international police cooperation. It was established in 1923 and adopted its telegraphic address, Interpol, as its common name in 1956.

Kosher—From the Hebrew word “kasher,” which means “proper” or “pure.” Kosher foods conform to strict Jewish dietary laws.

Laminates—A material constructed by uniting two or more thin sheets or layers of material together. Photo identification cards, drivers’ licenses, and credit cards are normally laminated with plastic film.

LNE-certified—Certification by the Laboratoire National de Métrologie et d'Essais (LNE) for which Cashield™ inks were subjected to 47 individual dye penetration and wash-out-resistance tests. The LNE was established in 1901 as part of the Conservatoire National des Arts et Métiers (CNAM) to meet industrial testing and measurement requirements, especially related to materials, machinery, and physics.

Magneto-Optical—A combination of magnetic and laser technology for safe, portable storage of massive amounts of information in gigabyte quantities.

Micro-printing—Printing that is visible in a portrait and other parts of the note upon close inspection, though virtually impossible to reproduce on copy machines.

Nucleotides—The building blocks of DNA and RNA made up of three joined structures: a nitrogenous base, a sugar (ribose or deoxyribose), and a phosphate group.

Overt—Open and observable; not secret or hidden.

Pecuniary—Relating to or involving money.

Pima Cotton—Also known as extra long staple cotton. Pima cotton is a type of cotton with longer fibers for a smoother thread and softer, stronger, more durable, and luxurious fabric.

Polymerase Chain Reaction (PCR)—A technique for making copies of a specific DNA sequence. The reaction is initiated using a pair of short primer sequences that match the ends of the sequence to be copied. Each cycle of the reaction copies the sequence between the primers. Primers can bind to the copies as well as the original sequence, so the total number of copies increases exponentially with time.

Provisional (Patents)—Interim patent applications that provide one year for product development. A provisional patent application is not examined but can serve as priority for an application filed later.

Radio Frequency Identification (RFID)—A method of identifying unique items using radio waves. Typically, a reader communicates with a tag, which holds digital information in a microchip. RFID electronic tags can be placed in products or packaging used for storing unique serial numbers and data, and can be read at a range of distances.

REACH-compliant—Compliance with a European Community Regulation on chemicals and their safe use (EC 1907/2006). It deals with the Registration, Evaluation, Authorization, and restriction of Chemical substances. The REACH Regulation gives greater responsibility to industry to manage the risks from chemicals and to provide safety information on the substances. Manufacturers and importers are required to gather information on the properties of their chemical substances and to register the information in a central database run by the European Chemicals Agency (ECHA).

Supima®—A U.S. non-profit organization whose main objective is to promote the use of American Pima cotton around the world and is involved in quality assurance and research programs. Supima® also works closely with cotton industry organizations and government agencies to ensure a fair and viable marketing environment for American Pima cotton growers.

Thermal Transfer—Thermal transfer is a printing technology method in which printers use regular paper and a heat-sensitive ribbon. The ribbon deposits a coating of dark material on the paper when exposed to intense heat. Thermal transfer printers produce a more durable label and are often used when a label needs to endure longer than a year. Thermal transfer is a common method for printing barcode labels.

Ultraviolet (UV)—Light lying just beyond the violet end of the visible spectrum and having wavelengths shorter than approximately 4,000 angstroms, which is not visible to the human eye.

Upland Cotton—A short staple cotton species. It is the most widely planted species of cotton in the U.S., accounting for 95% of all cotton production.

Worsted—A smooth, firmly twisted thread or yarn made from long-staple wool combed to make the fibers lie in the same direction.

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