

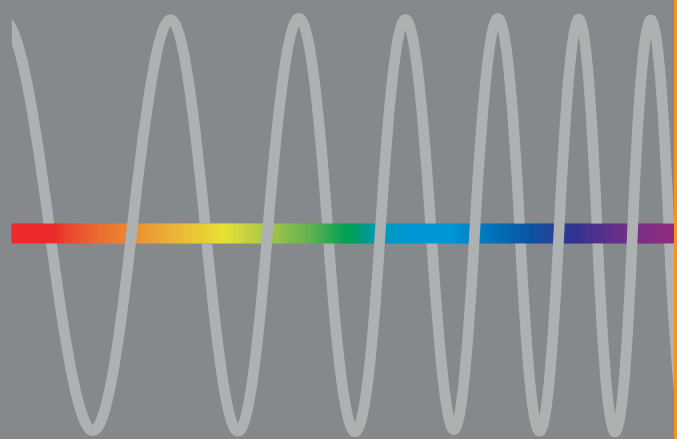
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SPECTRASYSTEMS

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Leading the industry in
innovation, performance
and sustainability

Spectra Systems Corporation
Annual Report and Accounts 2022

Spectra Systems CORPORATION

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Spectra Systems is an established world leader in providing security technology that includes software and advanced materials for use in banknotes, product authentication, and gaming.

Spectra provides integrated solutions comprised of engineered materials for authentication and hardware and software systems which verify the unique signatures of the authentication materials. Through a series of strategic supply and licensing agreements with governmental, institutional and corporate partners, we have become industry leaders in the currency and document authentication markets, and one of the world's leading suppliers of high-speed currency authentication sensors. Most recently we have developed and perfected Fusion™ and sensors resulting in the world's first machine-readable polymer substrate for bank notes. We have created a solid supply chain to provide both covert and machine-readable covert substrates to take advantage of this rapidly growing segment of the industry.

Our dedication to tackling our customer's most pressing challenges fueled the development of the world's first banknote cleaning technologies. Spectra's Aeris™ system can remove oils and other contaminants from banknotes in circulation, extending the life of banknotes which can save central banks up to US\$10 billion dollars annually. Our Banknote disinfection system (BDS) was developed in response to the COVID 19 pandemic and is capable of sterilizing up to 5 million banknotes in an hour.

Spectra's solutions are also used for authenticating and tracking well-established consumer branded products such as energy drinks, shampoo, wine, spirits, and tobacco.

Spectra's security software also provides secure Internal Control Systems (ICS) to US and international lotteries including Norsk Tipping in Norway, Netherlands, Canada and 17 US lottery jurisdictions including Puerto Rico. Spectra Systems is an associate member and active participant in the North American and Provincial Lottery Association (NASPL) and the World Lottery Association (WLA).



STRATEGIC REPORT

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HIGHLIGHTS

Revenue (US\$ million)

19.6

(2021: 16.6)

22	19.6
21	16.6
20	14.7

Adjusted PBTA (US\$ million)

7.8

(2021: 6.6)

22	7.8
21	6.6
20	6.0

Adjusted earnings per share (US¢)

14.5

(2021: 12.0)

22	14.5
21	12.0
20	11.9

Financial highlights

- › Revenue of US\$19,627k (2021: US\$16,592k) up 18%
- › Adjusted EBITDA¹ up 17% at US\$8,077k (2021: US\$6,896k)
- › Adjusted PBTA¹ up 17% to US\$7,765k (2021: US\$6,622k)
- › Adjusted earnings² per share up 21% to US 14.5 cents (2021: US 12.0 cents)
- › Cash generated from operations of US\$8,040k (2021: US\$8,084k)
- › The Board are declaring an increased annual dividend of US\$0.115 per share to be paid in June 2023
- › Strong, debt-free balance sheet, with cash³ of US\$17,496k (2021: US\$16,775k) at 31 December
- › Buy-back of 500,000 shares during 2022 at a total cost of US\$807k

Operational highlights

- › Continued momentum towards customer acceptance of latest pre-production sensor units
- › Completed supply chain mitigation program with central bank worth US\$1.3MM for preparation and given go ahead for production in 2022 at 21% price increase
- › Rollout of our Fusion™ machine readable polymer substrate at the Banknote 2022 conference
- › Increased sales efforts for polymer substrates with appointment of Global Sales Director for Banknote Technology and launch of enhanced website
- › Central Bank request to provide large quantities of Fusion™ substrate for a large print trial ongoing in 2023
- › Increased operational efficiency in software security group by launching a new tool to significantly improve our ability to manage customer support
- › Increased total central bank sensor revenue with additional contract enhancements (amendments) for increased sensor testing and more flexibility with sorter integration
- › Successfully completed a second gravure test of TruBrand™ with a major cigarette supplier in China
- › Executed an agreement with a strategic partner for dairy and transit licences in India
- › Sale of our first Banknote Disinfection System to an Asian central bank
- › Achieved a nearly three-fold increase in sales revenue for K-cup optical materials through a second large customer.
- › Expanded the lottery business into Canada with a new contract award and renewed a long-term US customer contract

1 Before stock compensation expense and excludes noncontrolling interest

2 Before amortization and stock compensation expense, excludes noncontrolling interest

3 Does not include US\$500k (2021: US\$500k) of restricted cash and investments

Spectra is a highly responsive organization that develops customized solutions for its customers.



Spectra authentication products are comprised of engineered materials and hardware systems which verify the unique signatures of the authentication materials in banknotes and brand products.

Our gaming software platforms are used by lotteries to validate the large number of transactions processed each day.

45 billion

banknotes with our security features are circulating worldwide.

950 million

dollars of energy drinks sold annually that contain our materials.

155 million

American passports contain our document technology.

25 million

transactions processed by our ICS gaming technology on a daily basis.

60 million

bottles of hair product are protected from counterfeiting with our SpectraGuard technology.

8 million

packs of high-end cigarettes protected by our TruBrand™ technology annually.

OUR CUSTOMERS

Our end customers include a G7 central bank and one of the world's largest commercial security printers, which has supplied our technology to a second G7 central bank and numerous other central banks.

Additionally, several recognizable brand authentication customers use our technologies to protect their consumer goods brands, while our Secure Transactions Group provides solutions for 20 lotteries, 17 in the United States of America and 3 international.

Our solutions have been used by:

- › 20 central banks including two G7 central banks;
- › commercial security printers and papermakers;
- › Crane & Co.;
- › suppliers of security threads for world currencies;
- › LMI Packaging Solutions;
- › Fres-Co System USA, Inc.;
- › multinational consumer product companies;
- › Governments of Turkey, India, Malaysia, Netherlands and Norway;
- › Intralot SA;
- › Scientific Games International Inc.;
- › International Game Technology PLC;
- › lotteries in 17 states within the United States of America; and
- › lotteries in 3 countries.

OUR MARKETS

With over 150 billion banknotes manufactured annually worldwide and 85% of all transactions performed using banknotes, this business has proven to be a high-quality, long-term revenue source for the Company.

The Covid pandemic highlighted the importance of banknotes as a store of value, particularly in times of crisis. With 20 central banks having used our products and newly developed technologies, particularly for polymer banknotes, we expect continued strong earnings from this sector. With polymer substrate banknotes growing at 18% CAGR, the Company is positioned to enter this market with the only covert, machine-readable substrate.

With billions of dollars lost to counterfeit goods, the ability to empower anyone with a smartphone to authenticate products and banknotes containing our materials transforms the market. Our TruBrand™, TruStamp™ and TruNote™ suite of solutions are the only materials-based smartphone authentication technologies in the world and rely on our proprietary materials rather than easily counterfeited images.

Spectra's current suite of portable reader-based solutions as well as related optical materials can be used for authenticating and tracking consumer and tax-bearing products. Our reader-based business has grown considerably in Asia and has several recognizable brand owners as customers.

Consumer confidence is central to strong lottery sales and any perceptions of indiscretions in the lottery operation can destroy years of effort in building a strong customer base. Lotteries and gaming regulators need an independent mechanism for providing visibility and assurance that their operation is playing by the rules. Many lottery jurisdictions require that an Independent Control System (ICS), such as our Premier64 Integrity ICS, be in place to meet consumer assurance requirements.

OUR SOLUTIONS

Authentication systems

Spectra's sophisticated capabilities allow us to invent, develop and manufacture integrated solutions comprised of a system of taggant materials and sensor equipment to authenticate banknotes at all levels of security.

- › Level I: Provides unique overt, luminescent visual effects, including gas-sensitive materials
- › Level II: Provides the public with a smartphone-based solution to examine banknotes for authenticity and denomination
- › Level III:
 - › Has been used by 20 central banks, including two G7 banks, our covert materials and sensors provide the highest level of banknote security worldwide
 - › World's first machine-readable polymer substrate

Secure transactions

Spectra's Secure Transactions Group is a leading supplier of Independent Control Systems (ICS) for real-time fraud control and risk management to government-sanctioned gaming operators. Currently deployed in North America, Europe and Asia, our systems monitor and audit more than US\$30 billion in annual sales for online, internet and mobile phone-based lotteries and pari-mutual organizations.

Our Premier64 Integrity ICS benefits and advantages include:

- › fully automated independent real-time monitoring;
- › support of both online and instant lottery games; and
- › monitoring online systems from all major gaming operators

Smartphone authentication

Spectra's materials-based technology enables end-users to authenticate consumer brands and banknotes with a smartphone. This technology eliminates the need for costly readers and allows the consumer to authenticate the product themselves.

- › TruBrand™, TruNote™ and TruStamp™ are materials-based technologies that do not rely on easily counterfeited images
- › TruTrack™ allows brand owners or government authorities to collect the geographic location, time and authentication status of each scan for monitoring and analysis purposes

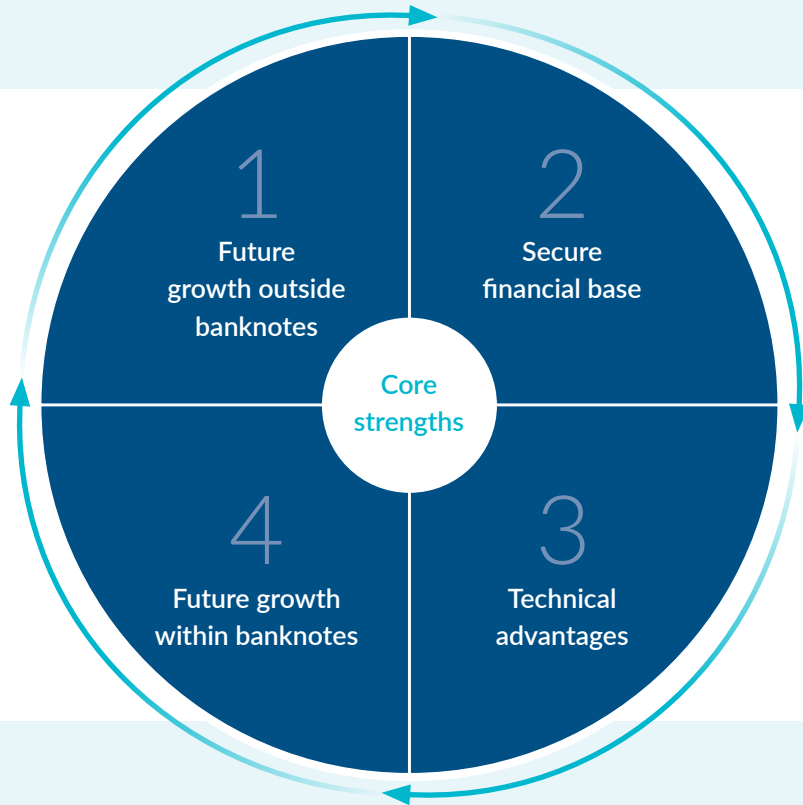
Optical materials

In the course of developing our authentication solutions for over a decade, Spectra has created a large number of unique optical materials which are responsive to various forms of excitation, from light to ambient environmental conditions, including gaseous constituents. These products are used in secure documents as well as K-cups and banknote security threads.

Our core strengths

Spectra is a profitable, cash-generative technology business with no debt, predictable long-term income streams and excellent growth opportunities.

> Discover more online www.spsy.com



1. FUTURE GROWTH OUTSIDE BANKNOTES	2. SECURE FINANCIAL BASE	3. TECHNICAL ADVANTAGES	4. FUTURE GROWTH WITHIN BANKNOTES
<ul style="list-style-type: none"> > TruBrand™ smartphone authentication technology in use by some Chinese tobacco manufacturers with the potential to transform a brand owner’s ability to identify the time and place where counterfeits are found > Smartphone authentication technology for documents and passports > New market opportunities for optical materials in consumer applications > Expansion of K-cup business to new customers 	<ul style="list-style-type: none"> > Successfully commercialized optical technologies across multiple sectors > Approximately 45 billion banknotes worldwide and 155 million US passports contain our security technologies > Long-term security features for central banks, governments and global corporations which once installed are near permanent features on multi-year contracts > For the twelve months to December 31, 2022: <ul style="list-style-type: none"> > Generated revenues of US\$19.6 million > Adjusted profit before tax of US\$7.8 million > Generated cash from operations of US\$8.0 million 	<ul style="list-style-type: none"> > Very little reliance on third parties > Manufacturing, servicing and R&D all managed in-house > Long-term management team holds the technical expertise and is fully aligned to shareholders with a collective shareholding of 11% (including share options) > Next generation of products includes the potentially transformative growth from polymer banknote substrates, to disinfecting solutions and cloud-based authentication and data metrics 	<ul style="list-style-type: none"> > Growth in use of polymer banknotes is a clear opportunity for Spectra to sell Fusion™ its newly developed machine-readable polymer substrate > Significant scope to increase market share of the growing banknote authentication market through innovative materials > Breakthrough technology for disinfection of banknotes for casinos and central banks > A comprehensive contract with a major world central bank for the development, manufacture and servicing of a sensor system with US\$12.9 million of development funding and as much as US\$50.0 million for the delivery of sensors

Focused on our future growth.

Our strategic priorities

Spectra's aim is to generate attractive returns for shareholders made up of capital and income growth (historical dividend yield exceeding 4%).

STRATEGIC AIM

Capitalize on existing customer relationships and suite of security products

Development strategy

- › Future development of covert materials and sensors will continue to be primarily externally funded
- › Engage with existing customers, including central banks and security suppliers to promote the concept of upgrading their security features to incorporate public and machine-readable security

Progress

- › Completed supply chain mitigation program with central bank worth US\$1.3 million for preparation and received go ahead for production in 2022 at 21% price increase
- › Revenue from our optical and security phosphour materials remained strong while licence payment from our licensee continued with on time payments and at the contracted value
- › Continued momentum towards customer acceptance of latest pre-production sensor units
- › Expansion of sensor capabilities to detect exotic counterfeits
- › Development of and sale of a banknote disinfection machine

Outlook

- › Completion of sensor development and revenue recognition of development payments
- › First sensor shipments to a major world central bank
- › New online Quality Control system contract with central bank

STRATEGIC AIM

Open new sales channels for the full spectrum of our product offering

Development strategy

- › Engage with security ink suppliers, commercial printers, government agencies and brand owners to promote the use of our public and machine-readable security materials and detection systems
- › Engage with and leverage channel partners to accelerate sales in their geographic regions
- › Continue development of authentication technologies designed to address evolving counterfeiting threats

Progress

- › Our recent development of smartphone readable security threads will expand the opportunities of the technology to passports and secure documents
- › Began a new testing program to qualify our material with a Canada based K-cup lid printer
- › Delivered technology overview to potential channel partners in Asia Pacific

Outlook

- › Increased sales of our newest phosphour products
- › Smartphone readable security products revenue reaching US\$1 million per annum levels
- › Print trials with two additional tobacco companies in China for the TruBand™ authentication system
- › Further growth of our K-cup materials business

STRATEGIC AIM

Grow our newest technology for polymer banknotes

Development strategy

- › Increase sales and marketing programs to promote our Fusion™ polymer banknote substrate offering
- › Actively engage with the three major stakeholders in the banknote industry to validate our Fusion™ polymer substrate, which include ink manufacturers, security printers, and state print works

Progress

- › Increased sales efforts for polymer banknote substrates with appointment of Global Sales Director for Banknote Technology and launch of enhanced website
- › Produced a large number of print-ready Fusion™ polymer sheets for a Middle Eastern central bank laboratory print trial
- › Received central bank request to provide large quantities of Fusion™ substrate for a large print trial ongoing in 2023
- › Formed a close working relationship with the largest commercial printer of polymer banknotes and commenced a project to develop and produce a house note that will incorporate both our Fusion™ machine readable security, as well as their newest public security feature

Outlook

- › Opportunity to bid in a polymer banknote tender
- › A commemorative note series using our Fusion™ polymer substrate
- › Production of high-quality house notes to aid in joint marketing programs

Engaging with our stakeholders

Section 172

Section 172 of the Companies Act 2006 requires the Board of Directors to take into consideration the interests of stakeholders and other matters in their decision making. The Board of Directors of the Company believes that they have acted in a way to best promote the success of the Company. The Directors fulfil their duty by ensuring that there is a strong governance structure at the Board level and throughout the Company. The Board regularly reviews our principal stakeholders and how we engage with these stakeholders and has identified our shareholders, customers, employees and suppliers as our key stakeholders. The Board takes seriously the views of these stakeholders in setting and implementing our strategy. In the following pages, we set out how we have engaged with these key stakeholders.

In addition to these key stakeholders, the impact on the environment and the communities in which the Company operates is considered when making decisions. During 2021, the Company donated US\$35,000 to the Leicester Royal Infirmary SACT Suite Extension project. In terms of protecting the environment, the Company converted to LED lighting at our research and development and manufacturing facilities to reduce our carbon footprint and reduce electric consumption by an estimated 59,000 kwh annually. In addition, we actively recycle solvents whenever possible and utilize recycled labeling products.

The Company continued its efforts to improve sustainability with particular focus on our product manufacturing processes. Our raw materials are sourced from suppliers with sustainability programs in effect and our Fusion™ polymer banknote substrate is produced by our manufacturing partners who have implemented solar farms, cogeneration plants, follow a zero landfill policy, and deployed new manufacturing equipment that operates on 30% less energy.

Shareholders

Why we engage

- › To ensure that our strategy is aligned with the interests of shareholders
- › To increase the share price and total shareholder return
- › To give a clear and consistent message

How we engage

- › Investor interaction via phone calls, face to face meetings, Zoom meetings, site visits and investor roadshows
- › Regular investor meetings following the full year and mid year results
- › Issuance of the annual report, mid-year results and RNS issuances throughout the year
- › Updating our investor relations website
- › Participate in recorded interviews which are disseminated and posted on our website

Employees

Why we engage

- › To ensure we maintain a highly motivated and skilled workforce
- › To ensure ongoing focus on health and safety and employee wellbeing
- › To support employee educational advancement

How we engage

- › Regularly scheduled meetings to encourage the generation of new ideas
- › Senior management maintains an open door policy and invites discussion from our employees
- › Professional development and a tuition reimbursement program
- › Covid protocols to safeguard the health of our employees
- › Senior and long-serving staff are incentivized through the Company Share Option Plan, with 3.3 million options currently outstanding to employees
- › Annual holiday party and company outing to foster camaraderie

Customers

Why we engage

- › To exceed the expectations of our customers and build long-term relationships
- › To maintain a high level of product quality

How we engage

- › A dedicated account team for our customers to provide timely responses
- › Regular customer meetings to discuss the "customer experience"
- › Service-level agreements and quality standards
- › Providing 24 x 7 support for critical customer needs
- › Going "above and beyond" to meet the complete satisfaction of our customers

Suppliers

Why we engage

- › To manage supply chain risk, especially in regards to Covid
- › To build a global supply chain and develop long-term relationships to make materials and services available when needed
- › To ensure the use of the best quality materials and resources we can source
- › To ensure security of supply and high supplier standards
- › To ensure our suppliers have sustainability programs in place

How we engage

- › Regular communication with our key suppliers
- › Supplier evaluations and audits

We continue to develop cutting edge technologies to remain the innovation leader in the authentication industry and to offer our shareholders the springboard to even bigger growth of their Company.

Introduction

We are delighted to report that we significantly outperformed the 2021 results while our year-end cash position is the highest in the Company's history.

Revenue for the year was up 18% at US\$19,627k (2021: US\$16,592k), primarily driven by pre-production development contracts as well as ongoing demand for our materials to meet production for our long-standing central bank customer.

The adjusted EBITDA (before stock compensation expense) for the year increased 17%, to US\$8,077k compared to the prior year of US\$6,896k.

Having generated cash from operations of US\$8,040k (2021: US\$8,084k), cash at the period end was US\$17,496k (2021: US\$16,775k), excluding US\$500,000 of restricted cash and investments (2021: US\$1,099k). This is notwithstanding US\$5,004k paid to shareholders during June in the form of the Company's dividend of US\$0.11 per share and US\$807k used for buying back 500,000 shares.

Review of operations

Physical and Software Authentication Business

The Authentication Systems business generated revenue of US\$18,164k (2021: US\$14,718k) and Adjusted EBITDA of US\$8,005k (2021: US\$6,556k). Authentication Systems revenues were driven by sales of covert materials and the funding of a new in-house capability and facility to combat supply chain issues relating to one of our central bank customers. Authentication Systems revenue was further increased by milestone payments which are part of the sensor development program with one of our long-standing central bank customers. We continue to advance through the acceptance process with this central bank with the delivery of preproduction units of our latest sensor in

late 2024. In addition, revenue from optical and security phosphour materials remained strong while licence payments from our licensee continued with on time payments and at the contracted value.

Through our vertically integrated manufacturing we have been able to produce high-quality conducting and opacified polymer substrate for evaluation by central banks, ink suppliers and printing organizations. We have produced a large number of print ready sheets for a Middle Eastern central bank print trial which has resulted in an additional large scale print trial scheduled for Q2 2023. The Company has formed a close working relationship with the largest commercial printer of polymer banknotes and is developing a house note which will incorporate both our Fusion™ machine readable security as well as their newest public security feature. The objective of this joint development will produce polymer banknotes of the highest quality for a joint marketing effort.

We are increasing our sales and marketing efforts for Fusion™ as well as our full suite of banknote products having introduced Fusion™ at the Banknote Conference and appointed a UK based Global Director of Sales for Banknote Technology.

With the TruBrand™ authentication product having been successfully introduced into the Chinese tobacco market in 2019 and for use in stationery products in 2021, we have completed two successful gravure tests with another large supplier of cigarettes in China and plan print tests in Q1 of 2023 with two additional tobacco companies in China. We continue to expand our search for new TruBrand™ customers outside of China, including with a major Japanese printer and a partnership with a company in India bidding on authentication of both dairy products, as well as transit certificates, and with our multinational Fusion™ polymer partner for

labels. We have also developed smartphone readable security threads to further expand the palette of target applications and potential partners. In addition, we continue to work with a printer for a well-respected French luxury brand to help protect their products sold in China using authentication technology we acquired several years ago.

Our K-cup materials business has grown significantly after a new customer began purchasing our products during 2021. In 2022, we began a new testing program with a Canada based K-cup lid printer which we expect will produce revenues in Q2 2023.

On the software security side of the Company's business, the Secure Transactions Group generated an Adjusted EBITDA of US\$72k (2021: US\$340k) on revenue of US\$1,463k (2021: US\$1,874k). The 2022 results are in line with expectations as we continue development of a new software platform. While this development continues, we are focusing on the online lottery sector which grew during the pandemic through a partnership with NextGen Lotteries.

Finally, the Company has received several additional patents on authentication technology in Africa, China, and EU which protects our position in covert authentication as well as polymer substrates technology and machine readability

Banknote Cleaning and Disinfection Business

We have sold our first Banknote Disinfection System (BDS) for use by an Asian central bank. The unit was installed in Q1 2023 and the terms included a 30% up-front payment as well as a follow-on service agreement. As this system is scalable from 250,000 notes to over five million notes in a single cycle of one hour, we have the ability to accommodate a large spread of potential customer requirements.

Review of operations continued**Banknote Cleaning and Disinfection Business continued**

With this first unit sold, we are ramping up our sales and marketing process to other central banks as well as the casino industry. We do not expect this product to significantly contribute to revenue until another Covid outbreak or the emergence of another rapidly spreading pathogen.

Solaris BioSciences Investment Asset

In December 2020, the Company made an investment in Solaris BioSciences, whose results are consolidated by the Company. The technology is entirely optical and has evolved rapidly over the last months of 2022 and Q1 2023. The technology is now capable of point of care measurement of plasma viscosity, cancer markers, lipid content, and LDL in microliters of blood. During H1 2022, Solaris BioSciences Holdings was formed as a UK company and has obtained EIS status with HMRC to expand the base of investment opportunities to the UK.

Corporate Governance

Spectra Systems is an AIM listed company and has always worked to abide by best practices as advised by both our bankers as well as our shareholders. Recently ISS has issued certain recommendations regarding board composition, committee assignments, and option grants.

Our Board has comprised the same Directors since our listing except for the addition of Mr. Jeremy Fry (UK based) who replaced Mr. Martin Jaskel after his untimely passing away. In order to add a new dimension to the Board, Dr. Barbara Paldus joined the Board in H2 2022 as an Independent Non-executive Director. She has extensive entrepreneurial experience, particularly in technology solutions, which will be of immense value to Spectra.

With the addition of this new Board member, Dr. Nabil Lawandy exited the Audit Committee assignment as there is now a suitable replacement to share the burden of committee assignments.

With regards to Director option grants, the Company has adopted a new policy which will allow new Directors to receive a one-time option grant upon joining the Board of Directors. Going forward, no Directors will be issued new options beyond the ones received at joining the Board. This is a compromise position relative to USA standards and UK guidance that Non-executive Directors hold no options.

Strategy

The Company's strategy for increasing revenue and earnings continues to be focused on selling more products to existing customers as well as opening new sales channels for the full spectrum of our product

offering. We have had very good success in upselling existing central bank customers and commercially exploiting supply chain and pandemic related issues as part of our strategy. Examples of these successes are the expansion of sensor capabilities for exotic counterfeits, the development and first sale of a banknote disinfection machine, and the commencement of a program with our customer to deal with supply chain issues now and going forward.

Our strategy for growing our newest and potentially transformative technology for polymer banknotes is based on validation, followed by commemorative banknote contract and then a full banknote denomination contract. The validation is focused on three major stakeholders in the polymer banknote industry: the ink manufacturers, the commercial printers, and the state printworks. Our primary targets are central banks which are currently using paper substrates and are contemplating a transition to polymer as well as central banks who have decided not to use polymer for higher denominations due to security concerns.

With regards to our optical materials and brand authentication products, we continue to propose to both central banks and overt security suppliers the concept of upgrading such features to incorporate public and machine-readable security.

CONTRACT AMENDMENT FOR SUPPLY CHAIN PROTECTION FOR MATERIALS TO A CENTRAL BANK**CASE STUDY**

Spectra Systems Corporation, a leader in machine-readable high-speed banknote authentication, brand protection technologies and gaming security software, is pleased to announce that it has executed an amendment to a materials procurement contract with a long-standing central bank customer.

The effect of this amendment is to increase the price of specified materials supplied thereunder by approximately 21% relative to the current price. The price increase will begin with the next order and reflects Spectra's proactive efforts to mitigate supply chain issues for the customer, by bringing more processing in-house. The price increase portion under the amended contract also has a built-in annual price escalator of approximately 3%.

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We are delighted to have been able to ensure the supply of critical materials for our central bank customer. We identified the potential supply chain problem well in advance of any ramifications to the program and initiated an internal development and capability which our customer greatly appreciated. In so doing, we have not only reduced risk for our customer, but also significantly increased our revenues and earnings related to our consumables business with this central bank.”

Nabil M. Lawandy
Chief Executive Officer

Our recent development of smartphone readable security threads will expand the opportunities of the technology to passports and secure documents. The strategy behind this approach is based around partnering with current contract holders who can benefit from our technology and materials to upsell their existing customers.

Finally, with our strong cash position, we do explore possible mergers and acquisitions which can immediately open doors to implement our upselling strategy, expand our customer base or strengthen our supply chain for Fusion™ polymer substrate. The exploration of such opportunities is now becoming more viable at larger scales as we expect to have even more significant cash resources through the successful delivery of the major central bank sensor contract.

Prospects

The Company continues to have a multitude of new short-term and long-term prospects. The short-term opportunities are expected in the 2023-2025 period and the long-term opportunities are expected in the 2025-2030 time frame.

The near-term opportunities are:

- › Completion of sensor development and revenue recognition of development payments
- › New online Quality Control system contract

- › First sensor shipments to a central bank
- › TruBrand™ revenue reaching US\$1m per annum levels
- › Increased sales of our newest phosphour products
- › Expansion of our gaming software business in Canada and other non-USA customers and in the online lottery market
- › Opportunity to bid in a polymer banknote tender
- › A commemorative note series using our Fusion™ polymer substrate

The longer-term opportunities are:

- › Supply of upgraded sensors worth up to US\$50MM in hardware to a central bank customer
- › Supply of Fusion™ polymer substrate and sensors to a central bank for one or more banknote denominations
- › Further increase of covert authentication materials by a current or new central bank customer

The combination of these prospects, both short and long term, has positioned the Company to continue its revenue and earnings growth over the coming years. We continue to develop cutting edge technologies to remain the technology leader in the authentication industry and to offer our shareholders growth through innovation for both new and existing customers.

Dividend

With the Company having an eighth year of sustainable profits, reaching their highest levels since its admission to trading on AIM, and having sufficient resources to execute on its growth plans with its existing cash reserves, the Board is delighted to again issue an increased dividend. Our dividend policy takes account of the Group's profitability, underlying growth, and maintenance of sufficient cash reserves. The Board therefore intends to pay an annual dividend of US\$0.115 per share on or about June 23, 2023 to shareholders of record as of June 2, 2023.

Nabil M. Lawandy Chief Executive Officer

March 21 2023

ADDITIONAL CENTRAL BANK DEVELOPMENT REVENUES

CASE STUDY

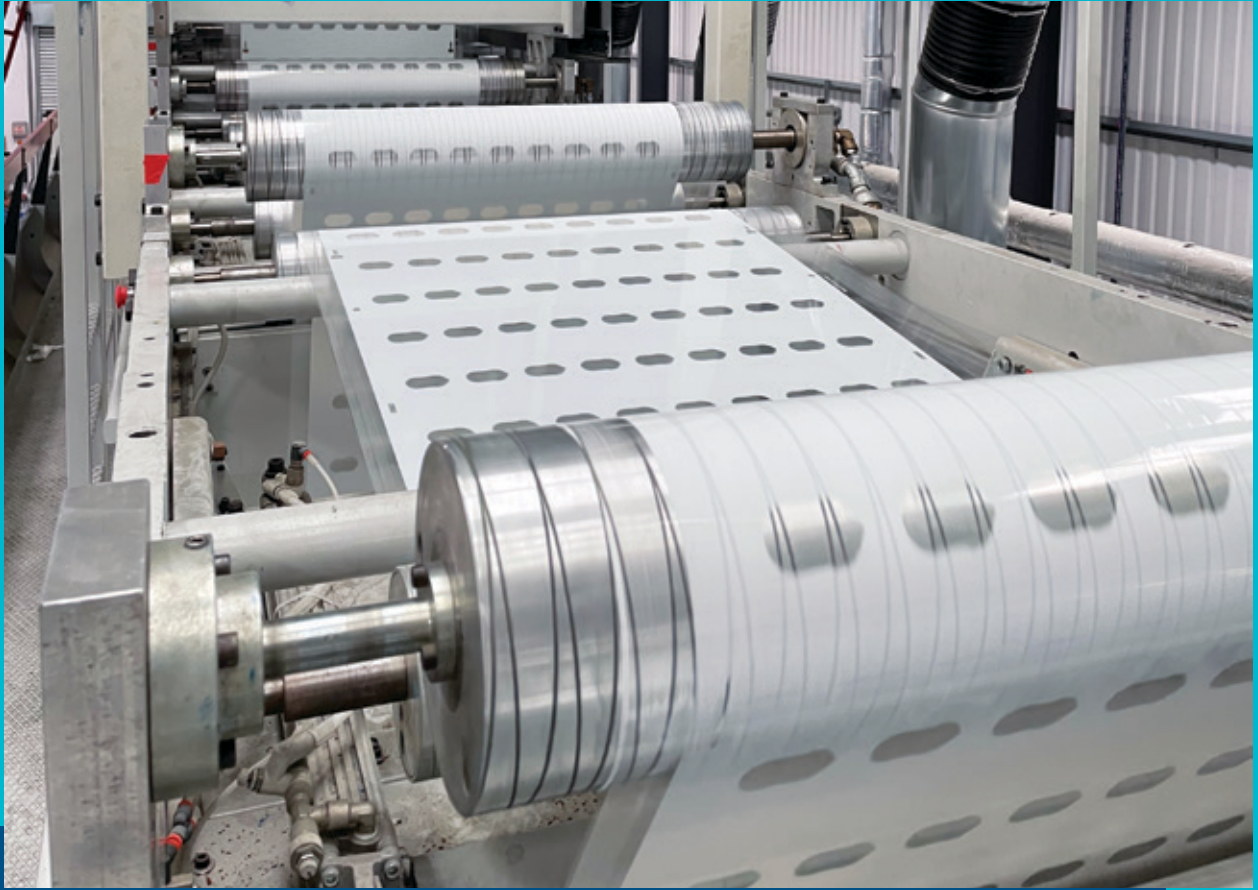
Spectra Systems Corporation, a leader in machine-readable high-speed banknote authentication, brand protection technologies and gaming security software, is pleased to announce that it has executed an amendment to a contract with a central bank customer (previously announced on 2 February and 21 April 2021), increasing the sensor development phase revenues by an additional US\$2MM. The contract is related to expanding the flexibility of use for the new sensors being developed.

“

We continue to provide cutting edge capabilities to our central bank customers who depend on us to respond quickly and effectively to their increasing requirements. This additional contract will increase the development phase from US\$8.8MM to US\$10.8MM while maintaining the existing timeline for sensor manufacturing and further solidifies our longstanding relationship with this central bank customer.”

Nabil M. Lawandy
Chief Executive Officer





Spectra Systems produces high quality conducting and opacified polymer substrate for evaluation by central banks, ink suppliers and security print organizations

“

Through our vertically integrated manufacturing we have produced a large number of print ready sheets for a Middle Eastern central bank print trial which has resulted in an additional large scale print trial scheduled for Q2 2023.”

Nabil M. Lawandy
Chief Executive Officer

BOARD OF DIRECTORS

To the Board of Directors and Stockholders of Spectra Systems Corporation

Our Board of Directors has a collective responsibility to shareholders for the sustainable long-term success of the business.

BJ PENN

Non-executive Chairman



Mr. Penn was Acting Secretary of the US Navy from March to May 2009, having previously been Assistant Secretary of the US Navy (Installations and Environment) since 2005. Mr. Penn began his career as a Naval Aviator and was named EA-6B Pilot of the Year in 1972. Throughout his distinguished career, significant leadership assignments included: Executive Officer/Commanding Officer VAQ 33, Battalion Officer at the US Naval Academy, Air Officer on the USS America, Special Assistant to the Chief of Naval Operations, Commanding Officer of NAS North Island, CA, and Deputy Director of the Navy Office of Technology Transfer & Security Assistance. Mr. Penn left the Navy in 1995, joining Loral Corporation as Director of International Business. In 1996, Loral

sold its defense electronics and system integration businesses to Lockheed Martin and Mr. Penn was assigned to Lockheed Martin's corporate staff. Mr. Penn returned to the US Navy in 2001 as Director of Industrial Base Assessments.

Mr. Penn received his BS in Industrial Technology from Purdue University and his MS in Human Resource Management and Personnel Administration from the George Washington University. Mr. Penn has also received certificates in Aerospace Safety from the University of Southern California and in National Security for Senior Officials from the Kennedy School, Harvard University. Mr. Penn serves as Trustee at the George Washington University and is on the board of the Naval Aviation Museum.

NABIL M. LAWANDY

President and Chief Executive Officer



Dr. Lawandy is the founder, President and Chief Executive Officer of the Company. Dr. Lawandy started his career at the NASA Goddard Space Flight Center, where he was a pioneer in the development of sub-millimeter optically pumped lasers. From 1981 to 1999, Dr. Lawandy was a tenured full professor of Engineering and Physics at Brown University, where his work focused on instabilities in single and multimode lasers and a wide spectrum of non-linear optics and atom-field interaction problems. In addition to Spectra Systems Corporation, Dr. Lawandy has founded two other companies, Spectra Disc Corporation and Solaris Nanosciences, and has raised over US\$80 million in investment capital.

Dr. Lawandy holds a BA in Physics, and an MS and PhD in Chemistry, all from Johns Hopkins University. Dr. Lawandy has authored over 180 reviewed scientific papers and is an inventor on over 80 US and foreign issued patents. His entrepreneurial and scientific work has been covered in several high-profile publications including the London Financial Times, the Economist, Scientific American, Science News, the Wall Street Journal, Los Angeles Times, the Boston Globe, Fox News and BBC Television. Dr. Lawandy has also received a Presidential Young Investigator Award, an Alfred P. Sloan Fellowship, a Cottrell Award, a Rolex Award for Enterprise and a Samuel Slater Award for Innovation.

A Audit Committee

G Government Security Committee

■ Committee Chairman

C Compensation Committee

N Nominating Committee

BOARD OF DIRECTORS *continued***A** Audit Committee**G** Government Security Committee**■** Committee Chairman**C** Compensation Committee**N** Nominating Committee**DR. BARBARA PALDUS**

Non-executive Director

A **C** **N**

Dr. Paldus has over 20 years of industry expertise in developing emerging domestic and international marketplaces, including bio-processing, personalized medicine, cell therapy, biotech beauty, and analytical process equipment. Dr. Paldus founded two companies whose combined revenue exceeded US\$250M in 2021. Dr. Paldus also has a doctorate in electrical and electronics engineering from Stanford University.

Dr. Paldus was a founder of Picarro in 1998, a leading provider of cavity-ring-down instruments (CRDS) and solutions to measure greenhouse gas (GHG) concentrations, trace gases, and stable isotopes across many scientific applications, along with the energy, life science, and utilities markets where she successfully exited in 2006. In 2005 she founded Finess Solutions, a leader in the development of scalable control automation systems and

software for bioproduction. Its proprietary Smart technology, which consists of sensors, controllers, and software is designed to optimize the bioproduction workflow. Finess Solutions was sold to Thermo Fisher in 2017. Dr. Paldus was also an operating partner for Skymoon Ventures from 2005 until 2017, a venture fund (US\$100 million invested) focused on early-stage chip, GPS, bioproduction, optical laser components, and analytical instrumentation.

Dr. Paldus is currently the CEO and Founder of Codex Labs, a global collection of biotech-based skincare solutions based on disruptive plant-based biotech ingredients, cGMP manufacturing, industry-leading carbon-footprint minimizing packaging, and data-driven clinical testing.

DONALD STANFORD

Non-executive Director

A **C** **N**

Mr. Stanford, who was from 1979 until 2001 the Chief Technical Officer of GTECH Corporation, is an Adjunct Professor of Computer Science and Engineering at Brown University and is an instructor in the Program in Innovation, Management, and Entrepreneurship (PRIME). Mr. Stanford is also on the faculty of Brown's School of Professional Studies. Mr. Stanford is a founding member of GTECH (renamed IGT) and, over the course of 30 years, he held every technical leadership position, including Vice President of Advanced Development and Chief Technology Officer. Mr. Stanford serves on several boards including YearUp Providence and the Business Innovation Factory. Mr. Stanford is a founding board member of Times2 STEM Charter School in

Providence and served on its board for 20 years. In 2008, Mr. Stanford was re-engaged by IGT as a consultant.

Mr. Stanford is a past member of the RI Science and Technology Advisory Council. Mr. Stanford also served on the Brown advisory councils to the President and the School of Engineering. Mr. Stanford holds a BA in International Relations and an MS in Computer Science and Applied Mathematics, both from Brown University. In 1999, Mr. Stanford received both the Black Engineer of the Year Award for Professional Achievement and the Honorable Thurgood Marshall Award for Community Service from the NAACP. In 2002, Mr. Stanford received the Brown Graduate School's Distinguished Graduate Award and the RI Professional Engineers Award for Community Service.

JEREMY FRY

Non-executive Director

A **C** **N**

Mr. Fry has over 30 years of experience in finance and operations and in particular intellectual property. Following a successful executive international career with large scale enterprises, Mr. Fry, who is based in the UK, established his own consultancy business in 2005. Since forming the consultancy business, he has worked across a broad spectrum of business clients, advising start-ups to publicly listed enterprises. Over the past 15 years he has assumed numerous roles including Executive Chairman, Non-executive Chairman, Non-executive Director, CEO and COO leading and supporting a number of successful investor acquisitions and exits. More recently, he has been focused on advisory and non-executive initiatives including his appointment to the boards of Blackspace Security Limited and

Sentrybay Limited, leading cyber-security companies working in financial services and regulated markets, where he is Chair of the Audit Committee.

Through 2019 and into 2020, his time was spent working on a very significant restructuring of an industrial company involving negotiations with lenders and shareholders, addressing balance sheet and operational challenges. Mr. Fry, a Chartered Marketeer, holds a degree in Biochemistry and Molecular Biology from Cardiff Metropolitan University (formerly Llandaff Technical College), a postgraduate diploma in Marketing from the Chartered Institute of Marketing via Cardiff Business School and an Executive MBA from the University of Reading.

Our senior management team highlights our strong internal talent base, providing clear direction and support for all areas of the business.

COLLEEN M. HAMILL, Chief Financial Officer and Company Secretary

Ms. Hamill has been Spectra's Chief Financial Officer since June 2022. With extensive financial experience in both public and private businesses, Colleen is responsible for managing all financial operations of Spectra Systems. Before joining Spectra, Colleen served as the Global Controller for Harvard Bioscience, Inc., a US public company in the life sciences sector. Prior to Harvard, Colleen served as Financial Controller/Director of Financial Reporting at Sevcon, Inc., an electronic control systems designer and manufacturer. During her career, Colleen

also held other financial positions at Boston-Power Inc (lithium-ion battery developer), Covidien (medical device manufacturer), Brookfield Renewable Power (hydroelectric power developer) and GTECH Corporation (gaming technology company). Colleen's career started at KPMG Peat Marwick in the audit sector of public accounting. Colleen holds a Bachelor of Science degree in Business Administration with Accounting concentration from Stonehill College and is a Certified Public Accountant.

WILLIAM GOLTSOS, Vice President of Engineering



Dr. Goltsos has been Spectra's Vice President, Engineering, from April 2000 to the present. From September 1996 to April 2000, Dr. Goltsos served as a Senior Systems Engineer for Spectra. Prior to that, from 1992 to 1996, Dr. Goltsos served as a Staff Member of

the MIT/Lincoln Laboratory's Optical Communications Group. Dr. Goltsos holds a PhD in Physics from Brown University, an MS in Physics from Brown University, and a BS in Physics from Rensselaer Polytechnic Institute.

JAMES CHERRY, Director of Business Development

Mr. Cherry serves as Director of Business Development. Mr. Cherry joined the Company in 2002 from Auspex Systems, an enterprise network data storage system business, where he had been involved

in marketing and product management for seven years. Prior to that, Mr. Cherry had worked for five years at DuPont in product management.

ANDREI SMUK, Director of Research and Development

Dr. Smuk, who joined the Company in 2000, was appointed Director of Research and Development in 2006. Dr. Smuk is responsible for the development of advanced materials and innovative sensor systems.

Dr. Smuk received a PhD in Physics from Brown University in 2000 and an MS in Applied Physics from the Moscow Institute of Physics and Technology in 1994.

SAM HOFER, Director of ICS Operations

Mr. Hofer joined the Company in 2020 as Director of ICS Operations and is responsible for Spectra's lottery business. Mr. Hofer has over 20 years' experience managing software development in various roles including game design, innovation and product management. Recently, Mr. Hofer worked for the British Columbia Lottery Corporation for seven years, exploring innovation for retail lottery as well as managing

online lottery as the business and product lead. Mr. Hofer was published in LaFleur's as a thought leader in the lottery industry. Previously, Mr. Hofer served in various roles at Electronic Arts, including Game Designer and Senior Product Manager. Mr. Hofer holds an MBA from Simon Fraser University and is certified as both a Product Manager and Scrum Master.

CORPORATE GOVERNANCE STATEMENT

Chairman's statement

The Board of Directors recognizes the importance of sound corporate governance to give our shareholders and other stakeholders confidence in our business. As Chairman of the Board, I have ultimate responsibility for ensuring that the Board adopts and implements a recognized corporate governance code in accordance with our stock market listing on the AIM market of the London Stock Exchange. The Board has adopted the Quoted Companies Alliance (QCA) Corporate Governance Code 2018. The Chief Executive Officer (CEO) has

responsibility for the implementation of governance throughout our organization under the direction of the Board.

The QCA Corporate Governance Code 2018 has ten key principles and we set out below how we apply those principles to our business.

The Honorable BJ Penn

Chairman of the Board

April 1, 2023

PRINCIPLE 1

Establish a strategy and business model which promotes long-term value for shareholders

Please refer to pages 2 to 5 for the details of our strategy and business model. The company is engaged in inventing, developing, manufacturing and selling technologically leveraged products. Technology leverage is at the core of our high margins and is the key to providing long term value and growth for our shareholders.

PRINCIPLE 2

Seek to understand and meet shareholder needs and expectations

The Board is committed to understanding and meeting the needs and expectations of its shareholders and believes that maintaining good communications is the best way to do so. The Company informs shareholders through regulatory news announcements and on its corporate website. All shareholders are encouraged to attend the Annual General Meeting. Subject to confidentiality and regulatory restrictions, the CEO meets with shareholders by appointment, which the Board believes has been successful.

PRINCIPLE 3

Take into account wider stakeholder and social responsibilities and their implications for long-term success

The long-term success of the Company is dependent on its relationships with its various stakeholders: customers, suppliers and employees amongst others. The Company has built strong relationships with its customers and considers itself a business partner, helping its customers develop solutions to meet their needs. The management team is in constant contact with its customers and seeks feedback to determine customer needs. The Company also maintains relationships with its key suppliers to ensure it is updated on new developments that may be utilized to the benefit of its customers. Our employees are also a key factor in the successful growth of the Company. Management is in constant contact with its employees and encourages employees to generate new ideas. To align employees with the long-term success of the Company, key employees have been granted stock options.

PRINCIPLE 4

Embed effective risk management, considering both opportunities and threats, throughout the organization

As a small cap company quoted on the AIM market of the London Stock Exchange, the Board is sensitive to the impact of risks upon the Company. The Board meets with Company management on a regular basis to monitor the risks facing the Company and identify appropriate measures to mitigate any potential impact. The Board assures itself of the efficacy of risk management and related control systems through corporate performance and periodic reports.

PRINCIPLE 5**Maintain the Board as a well-functioning, balanced team led by the Chair**

The Board is responsible for formulating, reviewing and approving the Company's strategy, budgets and corporate actions. Please refer to page 21 for the details of our Board structure and Committees. Given the size of the Board, Committee topics are often discussed by the full Board rather than limited to each Committee's members. This allows the full Board to stay informed of the particular issues being addressed by each Committee. Please refer to the Directors' report on page 20 for Board attendance.

PRINCIPLE 6**Ensure that between them the Directors have the necessary up-to-date experience, skills and capabilities**

The Board of Directors brings a broad range of skills to address the challenges faced by a company that sells its products worldwide. The Board consists of highly experienced professionals with complementary backgrounds that meet the needs of the Company. Each Director is responsible for maintaining his or her own skill set, part of which is achieved by remaining active in industry. The Nominating Committee of the Board is tasked with finding and nominating qualified candidates to serve on the Board. Please refer to our Directors' biographies on pages 11 and 12 for more information on our Board of Directors. In addition to the Directors, our Chief Financial Officer and outside General Counsel attend all Board meetings and bring financial, legal and business acumen to Board discussions. The Board and its Committees will also seek external expertise and advice where required.

PRINCIPLE 7**Evaluate Board performance based on clear and relevant objectives, seeking continuous improvement**

The Board evaluation process is designed to identify opportunities for improving the performance of the Board and to ensure it has the necessary skills and experience to fulfill its responsibilities both today and in the future, through adequate succession planning to the degree appropriate given the size of the Company. Given the current size of the Company, the evaluation process is performed internally, by the Board, on an ongoing basis. Any deficiencies identified will be addressed in a constructive manner and, if necessary, changes of the Board will be considered in conjunction with the Nominating Committee.

PRINCIPLE 8**Promote a corporate culture that is based on ethical values and behaviors**

The transnational nature of our business operations requires firm action on our part to work with integrity. As a Company, we strive to conduct ourselves according to the highest standards of ethical conduct. Throughout its operations, Spectra seeks to avoid even the appearance of impropriety in the actions of its Directors, officers, employees and agents. The Board has implemented policies to promote ethical conduct and relies on the management team to ensure ethical values and behaviors are respected.

PRINCIPLE 9**Maintain governance structures and processes that are fit for purpose and support good decision making by the Board**

The Board takes responsibility for the performance of the Company and ensures that all decisions are taken in the best interest of the Company. Although the Board has delegated the operational management of the Company to the CEO and other senior management, the Board retains oversight of their actions and retains approval authority for acquisitions, dividend payments and significant expenditures and contracts.

The Chairman is responsible for leadership of the Board and ensuring its effectiveness. The Chairman, with the assistance of the CEO, sets the Board's agenda and ensures that adequate time is available for proper discussion of all items.

The CEO is responsible for running the business and implementing the decisions and policies of the Board. The CEO is also responsible for accurate, appropriate and timely communications with shareholders.

While not a Board member, the CFO attends all Board meetings. The CFO is responsible for the Company's finances, human resources and compliance activities. The CFO seeks the advice of outside General Counsel when necessary.

The Non-executive Directors are appointed to provide strategic advice and independent oversight as well as to challenge the CEO.

The Board may create or disband Committees depending on the operations of the Company. The Board has established the following Committees to assist with oversight and governance: Audit, Compensation, Nominating and Government Security.

The Audit Committee has primary responsibility for monitoring the quality of internal controls and ensuring that the financial performance of the Company is properly measured and reported on. It will receive and review reports from the Company's management and auditor relating to the interim and annual accounts and the accounting and internal control systems in use throughout the Company. The Audit Committee intends to meet no less than three times each financial year and will have unrestricted access to the Company's auditor. The Audit Committee comprises Jeremy Fry as Chairman, Donald Stanford and Barbara Paldus.

The Compensation Committee reviews the performance of the CEO and makes recommendations to the Board on matters relating to his remuneration and terms of employment. The Committee also makes recommendations to the Board on proposals for the granting of share options and other equity incentives pursuant to any share option scheme or equity incentive scheme in operation from time to time. The Compensation Committee comprises Donald Stanford as Chairman, Jeremy Fry, BJ Penn and Barbara Paldus.

The Nominating Committee comprises BJ Penn as Chairman, Donald Stanford, Jeremy Fry and Barbara Paldus. The Committee seeks and nominates qualified candidates for election or appointment to Spectra's Board of Directors.

The Government Security Committee is responsible for ensuring the implementation within the Company of all procedures, organizational matters and other aspects pertaining to the security and safeguarding of information, including the exercise of appropriate oversight and monitoring of operations to ensure that protective measures are effectively maintained and implemented. The Government Security Committee comprises BJ Penn as Chairman and Nabil Lawandy.

PRINCIPLE 10**Communicate how the Company is governed and is performing by maintaining a dialogue with shareholders and other relevant stakeholders**

The Board is committed to maintaining good communication with all of its stakeholders, including shareholders. The Company's website, and its Investor Relations section in particular, provides useful information to assist stakeholders in assessing the performance of the Company.

Results of shareholder meetings and details of votes cast will be publicly announced through the regulatory information system. The Board will seek to understand the reasons behind any significant votes cast against a resolution at any general meeting.

Board Committee reports are included on pages 17 and 18.

Audit Committee report

Dear Shareholder

I am pleased to present our Audit Committee report for 2022 which describes our activities and areas of focus during the year ended December 31, 2022. The Board is satisfied that the members of the Audit Committee bring a wide range of skills, expertise, experience and competence relevant to the sector in which the Company operates and that Jeremy Fry possesses the necessary recent and relevant financial experience to effectively chair the Committee.

The main role of the Audit Committee includes:

- › monitoring the integrity of the Company's financial statements, including reviewing its annual and half-year financial statements and accounting policies;
- › reviewing the effectiveness of the internal controls and risk management; and
- › overseeing the relationship with the Company's auditor, Miller Wachman LLP, and assessing the effectiveness of the external audit.

The Audit Committee intends to meet no less than three times each financial year. Given the size of the Company, all Board members typically attend the Audit Committee meetings. In addition, the Chief Financial Officer and the Company's outside General Counsel typically attend the Audit Committee meetings. During 2022, the Audit Committee:

- › re-appointed Miller Wachman LLP as the Company's external auditor;
- › reviewed and recommended to the Board the approval of the 2021 annual report and the 2022 half-year results announcement;
- › reviewed the accounting treatment related to the recognition of revenue for certain development contracts;
- › reviewed the provision for excess and obsolete inventory; and
- › reviewed the audit approach and scope of the audit work to be undertaken by the external auditor and associated fee.

Jeremy Fry

Chairman

April 1, 2023

Nominating Committee report

Dear Shareholder

I am pleased to present our Nominating Committee report for 2022 which describes our activities and areas of focus during the year ended December 31, 2022. The main role of the Committee is to review the structure, size and composition of the Board, identify and propose to the Board suitable candidates to fill Board positions and keep under review the leadership needs of the Company.

Given the size of the Company, all Board members typically attend the Nominating Committee meetings. In addition, the Chief Financial Officer and the Company's outside General Counsel typically attend the Nominating Committee meetings. During 2022, the Nominating Committee:

- › reviewed the composition, size and structure of the Board;
- › identified Barbara Paldus as a qualified candidate for the Board and appointed Barbara Paldus to the Board; and
- › recommended the re-election of the existing Board members.

The Honorable BJ Penn

Chairman

April 1, 2023

Compensation Committee report

Dear Shareholder

I am pleased to present our Compensation Committee report for 2022 which describes our activities and areas of focus during the year ended December 31, 2022. The Compensation Committee reviews the performance of the CEO and makes recommendations to the Board on matters relating to his compensation and terms of employment. The Committee also makes recommendations to the Board on proposals for the granting of share options and other equity incentives pursuant to any share option scheme or equity incentive scheme in operation from time to time. The Compensation Committee aims to provide a competitive compensation package which will attract and retain Directors and management with the requisite experience and ability to manage the Company and generate superior long-term performance. The four main elements of the compensation package are: base salary, annual bonus, benefits and

share options. Given the size of the Company, all Board members typically attend the Compensation Committee meetings. In addition, the Chief Financial Officer and the Company's outside General Counsel typically attend the Compensation Committee meetings.

During 2022, the Compensation Committee:

- › assessed the 2021 performance of the Chief Executive Officer and approved a bonus of US\$100,000 based on the excellent financial results for 2021; and
- › approved the issuance of stock options.

Donald Stanford

Chairman

April 1, 2023

Directors' interests

The Directors' beneficial interests in the common stock of the Company were as follows:

	December 31,	
	2022	2021
Ordinary shares		
N. Lawandy	2,247,736	2,247,736
B. Penn	107,436	107,436
J. Fry	—	—
D. Stanford	30,797	45,797
B. Paldus	—	—
	2,387,991	2,400,969

Directors' compensation

The following table details the Directors' earned compensation for the year ended December 31, 2022:

	Salary and bonus	Benefits	Board fees	Total compensation
Executive Directors				
N. Lawandy	\$ 493,750	\$ 20,286	\$ —	\$ 514,036
Non-executive Directors				
B. Penn	—	—	31,500	31,500
J. Fry	—	—	31,500	31,500
D. Stanford	—	—	31,500	31,500
B. Paldus	—	—	7,875	7,875
Total	\$ 493,750	\$ 20,286	\$ 102,375	\$ 616,411

Directors' share options

At December 31, 2022, Directors had options or warrants to purchase ordinary shares under the Company's stock option plan as follows:

	Options held at December 31, 2022	Weighted average exercise price	Options vested at December 31, 2022
N. Lawandy	2,031,063	\$ 0.41	1,881,063
B. Penn	100,000	0.30	100,000
J. Fry	60,000	2.18	20,000
D. Stanford	100,000	0.30	100,000
B. Paldus	60,000	1.54	—
	2,351,063	\$ 0.48	2,101,063

DIRECTORS' REPORT

for the year ended December 31, 2022

The Directors present their report and the audited consolidated financial statements for the year ended December 31, 2022.

Domicile

Spectra Systems Corporation is a C corporation and is registered and domiciled in the United States of America.

Principal activity

The principal activity of the Company is to invent, develop and sell integrated optical systems that provide customers with increased efficiency, security tracking and product life. The integrated systems combine consumables and engineered optical materials with software and hardware for use in applications. The Company also provides software tools to the lottery and gaming industries for fraud, money laundering and match fixing detection, as well as statistical analysis.

Results and dividends

The Company's consolidated statements of income and comprehensive income are set out on pages 24 and 25 and show the results for each year.

There are nominal federal and state income tax liabilities on the respective income tax returns due to timing differences arising between items of income and expense recorded on the books and those reported on the tax returns.

The Directors intend to pay a dividend of US\$0.115 per share on or about June 23, 2023 to shareholders of record as of June 2, 2023.

Review of business and future developments

A review of the operations of the Group is contained in the Spectra at a glance review on pages 2 and 3.

Principal risks and uncertainties and financial risk management

Complex products

Certain of the products produced by the Company are highly complex and are designed to be used in complex systems. Failure to correct errors or other problems identified after deployment could result in events that may have a negative effect on the Company's business and financial condition.

Technological change

Markets for the Company's products may become characterized by rapidly changing technology, evolving industry standards and increasingly sophisticated customer requirements. The introduction of products embodying new technology and the emergence of new industry standards could render the Company's existing products obsolete and unmarketable and may exert pricing pressure on existing products.

If the Company could not then develop products that remain competitive in terms of technology and price and that meet customer needs, this could have a negative impact on the business.

Expiry of patents

All patents have a limited duration of enforceability. US patents generally have a duration of 20 years from the filing date. Once a

patent expires, the invention disclosed in the patent may be freely used by the public without accounting to the patent owner, as long as there are no other unexpired patents that embrace an aspect of the invention. There is no certainty that any improvement, new use or new formulation will be patented to extend the protection of the underlying invention or provide additional coverage to adequately protect the invention. As a result, the public may have the right to freely use the invention described in and previously protected by an expired patent.

Dependence on key personnel

The success of the Company's revenues is dependent on a limited number of employees, in particular the Chief Executive Officer and other managers with technological and development input. The Company has endeavored to ensure that its key employees are incentivized but cannot guarantee the retention of these staff.

Forward-looking statements

All statements, other than statements of historical fact, contained in this document constitute "forward-looking statements". In some cases, forward-looking statements can be identified by terms such as "may", "intend", "might", "will", "should", "could", "would", "believe", or the negative of these terms and similar expressions. Such forward-looking statements are based on assumptions and estimates, and involve risks, uncertainties and other factors which may cause the actual results, financial condition, performance or achievements of the Company, or industry results to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. New factors may emerge from time to time that could cause the Company's business not to develop as it expects and it is not possible for the Company to predict all such factors. Given these uncertainties, investors are cautioned not to place any undue reliance on such forward-looking statements. Except as required by law, the Company disclaims any obligation to update any such forward-looking statements in this document to reflect future events or developments.

Key performance indicators (in thousands)

- › Revenue of US\$19,627k (2021: US\$16,592k)
- › Adjusted EBITDA of US\$8,077k (2021: US\$6,896k)
- › Adjusted PBTA of US\$7,765k (2021: US\$6,622k)
- › Adjusted earnings per share of US14.5 cents (2021: US12.0 cents)

DIRECTORS' REPORT *continued*

for the year ended December 31, 2022

Post-reporting date events

None.

Financial instruments

Details of the use of financial instruments by the Company are contained in note B of the financial statements.

Directors' responsibilities

The Directors are responsible for preparing the Directors' report and the financial statements on the basis of preparation set out in note A of the financial statements and in accordance with United States Generally Accepted Accounting Principles (US GAAP). The Directors of the Company are responsible for the document in which the financial information is included.

In preparing these financial statements, the Directors are required to:

- › select suitable accounting policies and then apply them consistently;
- › make judgments and accounting estimates that are reasonable and prudent; and
- › state whether they have been prepared in accordance with US GAAP, subject to any material departures disclosed and explained in the financial statements.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions, disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements comply with all legal requirements. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Substantial shareholdings

The following shareholders held 3% or more of the issued common stock of the Company at December 31, 2022:

	Ordinary shares	% issued
Mr. and Mrs. N. Slater	4,666,985	10.37
Close Asset Management Limited	4,610,868	10.24
Sandon Capital	4,255,000	9.45
Herald Investment Management Ltd.	2,929,300	6.51
O. Salam	2,265,764	5.03
Canaccord Genuity Group Inc.	2,250,000	5.00
N. Lawandy	2,247,736	4.99
H. Heye	1,813,850	4.03
	25,039,503	55.62

Corporate governance

As of December 31, 2022, the Board comprised one Executive Director, Nabil Lawandy, and four independent Non-executive Directors, BJ Penn as Chairman, Jeremy Fry, Donald Stanford and Barbara Paldus. The Board usually meets at least every three months to closely monitor the progress of the Company towards the achievement of budgets, targets and strategic objectives.

Board attendance in 2022

		10/10	100%
N. Lawandy	President and Chief Executive Officer	10/10	100%
B. Penn	Non-executive Chairman	10/10	100%
J. Fry	Non-executive Director	10/10	100%
D. Stanford	Non-executive Director	10/10	100%
B. Paldus	Non-executive Director	1/10	10%

The Board also operates four Committees, the Audit Committee, the Compensation Committee, the Nominating Committee and the Government Security Committee.

The Audit Committee comprised Jeremy Fry as Chairman, Donald Stanford and Barbara Paldus. It has primary responsibility for monitoring the quality of internal controls and ensuring that the financial performance of the Company is properly measured and reported on. It will receive and review reports from the Company's management and auditor relating to the interim and annual accounts and the accounting and internal control systems in use throughout the Company. The Audit Committee intends to meet no less than three times each financial year and will have unrestricted access to the Company's auditor.

The Compensation Committee comprised Donald Stanford as Chairman, BJ Penn, Jeremy Fry and Barbara Paldus. It reviews the performance of the Executive Directors and makes recommendations to the Board on matters relating to remuneration and terms of employment. The Committee also makes recommendations to the Board on proposals for the granting of share options and other equity incentives pursuant to any share options scheme or equity incentive scheme in operation from time to time.

The Nominating Committee comprised BJ Penn as Chairman, Donald Stanford, Jeremy Fry and Barbara Paldus. The Committee seeks and nominates qualified candidates for election or appointment to Spectra's Board of Directors.

The Government Security Committee comprises BJ Penn as Chairman and Nabil Lawandy. It is responsible for ensuring the implementation within the Company of all procedures, organizational matters and other aspects pertaining to the security and safeguarding of information, including the exercise of appropriate oversight and the monitoring of operations to ensure that protective measures are effectively maintained and implemented.

The Board intends to comply with Rule 21 of the AIM Rules relating to Directors' dealings and will also take all reasonable steps to ensure compliance by the Company's applicable employees. The Company has adopted a share dealing code for this purpose on substantially the same terms as the Model Code.

Website publication

The Directors are responsible for ensuring the annual report and the financial statements are made available on a website. Financial statements are published on the Company's website in accordance with legislation in the United Kingdom governing the preparation and dissemination of financial statements, which may vary from legislation in other jurisdictions. The maintenance and integrity of the Company's website is the responsibility of the Directors. The Directors' responsibility also extends to the ongoing integrity of the financial statements contained therein.

Auditor

All of the current Directors have made themselves aware of any information needed by the Company's auditor for the purpose of its audit and have established that the auditor is aware of that information. The Directors are not aware of any relevant information of which the auditor is unaware.

Miller Wachman LLP has expressed its willingness to continue as the Company's auditor and a resolution to re-appoint Miller Wachman LLP will be proposed at the Annual General Meeting.

By order of the Board

Colleen M. Hamill

Chief Financial Officer and Company Secretary

April 1, 2023

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors and Stockholders of Spectra Systems Corporation

Opinion

We have audited the accompanying consolidated financial statements of Spectra Systems Corporation and subsidiary (the "Company"), which comprise the consolidated balance sheets as of December 31, 2022 and 2021, and the consolidated related statements of income and comprehensive income, stockholders' equity, and cash flows for the years then ended, and the related notes to the financial statements.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of their operations and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the consolidated financial statements are available to be issued.

Auditor's Responsibility

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements, including omissions, are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.

In performing an audit in accordance with generally accepted auditing standards, we:

- › Exercise professional judgment and maintain professional skepticism throughout the audit.
- › Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- › Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.
- › Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- › Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Miller Wachman LLP

Boston, Massachusetts

March 20, 2023

CONSOLIDATED BALANCE SHEETS

December 31, 2022 and 2021

	2022	2021
Assets		
Current assets		
Cash and cash equivalents	\$ 17,495,830	\$ 16,775,096
Accounts receivable, net of allowance for doubtful accounts of US\$0 and US\$7,000 in 2022 and 2021, respectively	3,676,782	2,241,867
Other receivables	1,132,664	629,813
Inventory	1,598,732	1,944,003
Prepays expenses	759,926	298,603
Total current assets	24,663,934	21,889,382
Property, plant and equipment, net	2,101,763	1,439,166
Operating lease right of use assets, net	1,217,466	971,649
Other assets		
Intangible assets, net	7,055,141	7,160,819
Restricted cash and investments	500,000	500,000
Deferred tax assets	1,881,000	1,080,000
Other assets	597,961	111,301
Total other assets	10,034,102	8,852,120
Total non-current assets	13,353,331	11,262,935
Total assets	\$ 38,017,265	\$ 33,152,317
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	\$ 928,830	\$ 489,526
Accrued expenses and other liabilities	503,817	511,774
Operating lease liabilities, short term	298,242	285,988
Taxes payable	683,452	261,639
Deferred revenue	4,626,126	2,184,564
Total current liabilities	7,040,467	3,733,491
Non-current liabilities		
Operating lease liabilities, long term	974,868	739,504
Deferred revenue	1,679,257	757,749
Total non-current liabilities	2,654,125	1,497,253
Total liabilities	9,694,592	5,230,744
Stockholders' equity		
Common stock - US\$0.01 par value; 125,000,000 shares authorized at December 31, 2022 and 2021; 45,011,001 and 45,303,644 shares issued and outstanding as of December 31, 2022 and 2021, respectively	450,110	453,036
Additional paid-in capital - common stock	53,177,719	53,833,233
Accumulated other comprehensive loss	(174,065)	(136,881)
Accumulated deficit	(25,727,077)	(26,870,037)
Total Spectra Systems Corporation stockholders' equity	27,726,687	27,279,351
Noncontrolling interest	595,986	642,222
Total stockholders' equity	28,322,673	27,921,573
Total liabilities and stockholders' equity	\$ 38,017,265	\$ 33,152,317

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF INCOME

for the years ended December 31, 2022 and 2021

	2022	2021
Revenues		
Product	\$ 11,207,801	\$ 9,281,096
Service	6,680,483	5,524,318
Royalty	1,738,453	1,786,910
Total revenue	19,626,737	16,592,324
Cost of sales	7,350,526	6,069,519
Gross profit	12,276,211	10,522,805
Operating expenses		
Research and development	1,507,034	1,398,729
General and administrative	3,023,263	2,742,634
Sales and marketing	752,974	471,441
Total operating expenses	5,283,271	4,612,804
Income from operations	6,992,940	5,910,001
Other (expense) income		
Interest income	17,591	40,136
Other income, net	—	(18,804)
Foreign currency income (loss)	(7,993)	11,794
Total other income net	9,598	33,126
Income before provision for income taxes	7,002,538	5,943,127
Provision for income taxes	901,400	878,000
Net income	6,101,138	5,065,127
Net loss attributable to noncontrolling interest	(46,236)	(97,703)
Net income attributable to Spectra Systems Corporation	\$ 6,147,374	\$ 5,162,830
Earnings per share		
Basic	\$ 0.14	\$ 0.11
Diluted	\$ 0.13	\$ 0.11
Weighted average number of common shares		
Basic	45,189,208	45,353,550
Diluted	47,321,818	47,739,030

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

for the years ended December 31, 2022 and 2021

	2022	2021
Net income	\$ 6,101,138	\$ 5,065,127
Other comprehensive income (loss)		
Unrealized gain (loss) on currency exchange	(45,177)	9,944
Reclassification for realized (gain) loss in net income	7,993	(11,794)
Total other comprehensive loss	(37,184)	(1,850)
Comprehensive income	6,063,954	5,063,277
Net loss attributable to noncontrolling interest	(46,236)	(97,703)
Comprehensive income attributable to Spectra Systems Corporation	\$ 6,110,190	\$ 5,160,980

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

for the years ended December 31, 2022 and 2021

	Common stock			Accumulated deficit	Accumulated other comprehensive loss	Noncontrolling interest	Total stockholders' equity
	Shares	Amount	Additional paid-in capital				
Balance at December 31, 2020	45,554,724	\$455,547	\$54,892,193	\$(27,730,611)	\$(135,031)	\$739,925	\$28,222,023
Compensation cost related to amortization of stock options	—	—	70,896	—	—	—	70,896
Reclassification for realized gain in net income	—	—	—	—	(11,794)	—	(11,794)
Unrealized gain on currency exchange	—	—	—	—	9,944	—	9,944
Exercise of stock options	248,920	2,489	35,251	—	—	—	37,740
Repurchase and retirement of shares	(500,000)	(5,000)	(1,165,107)	—	—	—	(1,170,107)
Dividends paid	—	—	—	(4,302,256)	—	—	(4,302,256)
Net income	—	—	—	5,162,830	—	(97,703)	5,065,127
Balance at December 31, 2021	45,303,644	\$453,036	\$53,833,233	\$(26,870,037)	\$(136,881)	\$642,222	\$27,921,573
Compensation cost related to amortization of stock options	—	—	142,981	—	—	—	142,981
Reclassification for realized gain in net income	—	—	—	—	7,993	—	7,993
Unrealized gain on currency exchange	—	—	—	—	(45,177)	—	(45,177)
Exercise of stock options	207,357	2,074	3,852	—	—	—	5,926
Repurchase and retirement of shares	(500,000)	(5,000)	(802,347)	—	—	—	(807,347)
Dividends paid	—	—	—	(5,004,414)	—	—	(5,004,414)
Net income	—	—	—	6,147,374	—	(46,236)	6,101,138
Balance at December 31, 2022	45,011,001	\$450,110	\$53,177,719	\$(25,727,077)	\$(174,065)	\$595,986	\$28,322,673

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

for the years ended December 31, 2022 and 2021

	2022	2021
Cash flows from operating activities		
Net income	\$ 6,101,138	\$ 5,065,127
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	916,679	831,021
Stock-based compensation expense	142,981	70,896
Lease amortization expense	287,062	274,192
Deferred taxes	(801,000)	320,000
Allowance for doubtful accounts	(3,565)	—
Provision for excess and obsolete inventory	694,000	493,739
Loss on disposal of assets	—	18,804
Changes in operating assets and liabilities:		
Accounts receivable	(1,428,126)	346,160
Unbilled and other receivable	(502,856)	(153,384)
Inventory	(348,729)	356,212
Prepaid expenses	(463,000)	(24,717)
Other assets	(500,462)	—
Accounts payable	440,971	(44,493)
Operating leases	(285,246)	(265,028)
Accrued expenses and other liabilities	417,029	71,445
Deferred revenue	3,374,650	724,406
Net cash provided by operating activities	8,041,526	8,084,380
Cash flows from investing activities		
Restricted cash and investments	—	599,021
Payment of patent and trademark costs	(476,346)	(470,994)
Proceeds from sale of property and equipment	—	36,500
Purchases of property, plant and equipment	(988,165)	(76,105)
Net cash (used in) provided by investing activities	(1,464,511)	88,422
Cash flows from financing activities		
Dividends paid	(5,004,414)	(4,302,256)
Repurchase of shares	(807,347)	(1,170,107)
Proceeds from exercise of stock options	5,926	37,740
Net cash used in financing activities	(5,805,835)	(5,434,623)
Effect of exchange rate on cash and cash equivalents	(50,446)	(1,378)
Net increase in cash and cash equivalents	720,734	2,736,801
Cash and cash equivalents, beginning of the year	16,775,096	14,038,295
Cash and cash equivalents, end of the year	\$ 17,495,830	\$ 16,775,096
Supplemental disclosures of cash flow information		
Cash paid for income taxes, net of refunds	\$ 1,280,000	\$ 526,550
Non-cash investing activities		
Acquisition of patents included in accounts payable	\$ 105,693	\$ 66,041

The accompanying notes are an integral part of these consolidated financial statements.

NOTES TO THE FINANCIAL INFORMATION

for the years ended December 31, 2022 and 2021

Note A – Corporate information

Spectra Systems Corporation (the Company) develops and sells integrated optical systems that provide customers with increased efficiency, security tracking and product life. The integrated systems combine consumables and engineered optical materials with software and hardware for use in applications. The Company develops and sells its integrated solutions across a spectrum of markets, including currency manufacturing and cleaning, branded products, industrial logistics and other highly sensitive documents. The Company also provides software tools to the lottery and gaming industries for fraud, money laundering and match fixing detection, as well as statistical analysis.

The Company was incorporated on July 3, 1996 in Delaware as Spectra Acquisition Corp. On August 26, 1996, the Company purchased substantially all of the assets of SSC Science Corporation and changed its name to Spectra Science Corporation. The assets were purchased for US\$1,654,000 in cash plus common stock warrants. The acquisition was accounted for using the purchase method of accounting.

On June 8, 2001, the Company changed its name to Spectra Systems Corporation.

On July 25, 2011, the Company raised US\$20,241,179, net of offering costs, on the London Stock Exchange in a placing of 18,592,320 common shares at a placing price of £0.753 per new common share, representing 41.09% of the enlarged common share capital of the Company. As a result of the offering, anti-dilution provisions found in the Company's Amended and Restated Certificate of Incorporation converted all of the issued and outstanding preferred shares into 17,185,052 common shares, giving 26,659,050 common shares in issue at the time of the placing.

Note B – Significant accounting policies**Basis of presentation and consolidation**

The Company has prepared the accompanying consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (US GAAP). The consolidated financial statements include the accounts of the Company, any wholly owned subsidiaries and variable interest entities (VIE) in which the Company is the primary beneficiary and entities in which the Company has a controlling interest. All material intercompany transactions and accounts are eliminated on consolidation.

Use of estimates

The preparation of financial statements in conformity with US GAAP requires management to make estimates and judgments that affect the amounts reported in the financial statements and accompanying notes. The accounting estimates that require management's most difficult and subjective judgments include the assessment of recoverability of property, plant and equipment; the valuation of inventory; intangible assets; revenue recognition; stock-based compensation; and the recognition and measurement of income tax assets and liabilities. The actual results may differ materially from management's estimates.

Cash and cash equivalents

The Company considers highly liquid investment purchases with a maturity of 90 days or less at the date of acquisition to be cash equivalents.

Restricted cash and investments

Restricted cash and investments represent a certificate of deposit held as collateral for certain performance requirements in accordance with terms of a services contract. As of both December 31, 2022 and 2021, a service contract required that US\$500,000 be maintained as collateral for contract performance. As of both December 31, 2022 and 2021, the Company collateralized the service contract with a certificate of deposit of US\$500,000 whose maturity exceeded 90 days at the date of acquisition.

Significant concentrations

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist principally of cash and cash equivalents and trade accounts receivable. The Company's cash management policies restrict investments to low-risk highly liquid securities, and the Company restricts its transactions to financial institutions with good credit standing. The Company has cash and investments, including restricted, on deposit with financial institutions which are insured by either the Federal Deposit Insurance Corporation up to US\$250,000 per institution or the Canadian Deposit Insurance Corporation up to 100,000 Canadian Dollars per institution. The Company also maintains cash on hand which is not subject to insurance. As of December 31, 2022, the amount of cash and investments, including restricted, not insured was US\$17,370,713.

Concentrations of credit risk with respect to trade accounts receivable are limited due to the concentration of business with government entities. The Company's management attempts to minimize credit risk on its accounts receivable by monitoring credit exposure on a regular basis.

The following table summarizes the number of customers that individually comprise greater than 10% of total accounts receivable and their aggregate percentage of the Company's total accounts receivable as of:

	December 31,	
	2022	2021
Number of significant customers	2	3
Percentage of total receivables	84%	75%

Note B – Significant accounting policies continued

Significant concentrations continued

The following table summarizes the number of customers that individually comprise greater than 10% of total revenues and their aggregate percentage of the Company's total revenues for the years ended:

	December 31,	
	2022	2021
Number of significant customers	3	3
Percentage of total revenue	77%	70%

The following table summarizes the geographic concentration of revenue for the years ended:

	December 31,	
	2022	2021
United States of America	\$ 16,624,390	\$ 13,015,938
Europe	2,616,895	3,360,432
Rest of World	385,452	215,954
	\$ 19,626,737	\$ 16,592,324

Accounts receivable

Accounts receivable are stated at the amount management expects to collect from outstanding customer accounts. Management provides for uncollectible accounts through a provision for bad debt expense. As of both December 31, 2022 and 2021, the Company had US\$0 and US\$7,000 respectively allowance for doubtful accounts.

Fair value of financial instruments

As of both December 31, 2022 and 2021, the carrying amounts of the Company's financial instruments, which include cash and cash equivalents, accounts receivable and accounts payable, are carried in the financial statements at amounts that approximate their fair market values due to their short-term nature.

Fair value is the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

- Level 1 – Quoted prices in active markets for identical assets or liabilities.
- Level 2 – Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3 – Inputs that are generally unobservable and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

As of both December 31, 2022 and 2021, the Company has certificates of deposit of US\$500,000 which are included in restricted cash and investments. The Company considers this certificate of deposit as a Level 2 investment.

Foreign currency translation

The functional currency of the Company's foreign operations is the applicable local currency, the Canadian Dollar. The functional currency is translated into US Dollars for balance sheet accounts using currency exchange rates in effect as of the balance sheet date and for revenue and expense accounts using an average exchange rate in effect during the applicable period. The translation adjustments are deferred as a separate component of stockholders' equity in accumulated other comprehensive loss.

Inventory

Inventories are stated at the lower of cost or net realizable value. Cost is determined using the first-in, first-out method. The Company regularly reviews inventory quantities on hand and records a provision to write down excess and obsolete inventory to its estimated net realizable value if less than cost. Inventory includes finished goods, raw materials, labor and overhead.

for the years ended December 31, 2022 and 2021

Note B – Significant accounting policies continued**Intangible assets**

Goodwill represents the excess of purchase price over the fair value of the net assets acquired. Goodwill is not amortized, but is subject to at least an annual assessment for impairment or whenever events or circumstances indicate that it might be impaired. There was no change to goodwill during the year ended December 31, 2022.

Other intangible assets consist of patents, trademarks and various intangible assets identified as part of a business combination such as contracts, customer relationships and technology. Patents and trademarks are recorded at cost. For intangible assets identified as part of a business combination, values are assigned using various valuation techniques, including the present value of expected future cash flows. Intangible assets are amortized using the straight-line method over their estimated useful lives ranging from seven to fifteen years. The Company evaluates the possible impairment of its intangible assets annually or whenever events or circumstances indicate the carrying value of the assets may not be recoverable.

Property and equipment

Property and equipment is stated on the basis of purchase price. Depreciation is calculated using the straight-line method over the following estimated useful lives:

Laboratory equipment	3–10 years
Computer and office equipment	3–5 years
Furniture and fixtures	7 years
Leasehold improvements	Shorter of lease term or estimated useful life
Software	3–7 years
Manufacturing equipment	3–7 years

Maintenance and repairs are charged to expense as incurred. When assets are retired or otherwise disposed of, the assets and related allowances for depreciation and amortization are eliminated from accounts and any resulting gain or loss is reflected in net income.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use (ROU) assets and operating lease liabilities in our consolidated balance sheets. ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the commencement date of the lease based on the present value of lease payments over the lease term. Certain real estate leases include one or more options to renew, with renewal terms that can extend the lease term for up to five years. The exercise of lease renewal options are at the Company's sole discretion. When deemed reasonably certain of exercise, the renewal options are included in the determination of the lease term and lease payment obligation, respectively. When readily determinable, the Company uses the rate implicit in the lease contract in determining the present value of lease payments. If the implicit rate is not provided, the Company uses its incremental borrowing rate based on information available at the lease commencement date, including the lease term. The operating lease ROU asset also includes any lease payments made and excludes lease incentives. Lease expense for lease payments is recognized on a straight-line basis over the lease term. The Company has lease agreements with lease and non-lease components and has elected to account for the lease and non-lease components as a single lease component.

Investment in affiliates and other entities

During the course of business, the Company enters into various types of investment arrangements. The Company determines whether such investments involve a VIE. If the entity is determined to be a VIE, then management determines if the Company is the primary beneficiary of the entity and whether or not consolidation of the VIE is required. The primary beneficiary consolidating the VIE must normally have both (i) the power to direct the activities of a VIE that most significantly affect the VIE's economic performance and (ii) the obligation to absorb losses of the VIE or the right to receive benefits from the VIE, in either case that could potentially be significant to the VIE. When the Company is deemed to be the primary beneficiary, the VIE is consolidated and the other party's equity interest in the VIE is accounted for as a noncontrolling interest.

On December 10, 2020, the Company invested US\$702,000 in Solaris BioSciences (Solaris) and increased its equity interest from 4.79% to 48.65% on an as-converted basis. The Company concluded that Solaris was a VIE and the Company was the primary beneficiary. The Company has consolidated the accounts of Solaris since December 10, 2020.

Note B – Significant accounting policies continued

Investment in affiliates and other entities continued

The Company accounts for investments in affiliates under the cost method of accounting if the Company owns less than 20% of the affiliates' outstanding capital. As of December 31, 2022, the Company held a 19% ownership in an affiliate, SpectraMed. As SpectraMed had significant losses in prior years, the Company had previously reduced its investments in SpectraMed to US\$nil.

Accounting for stock-based compensation

In accounting for the employee stock option plan, the Company uses the Black-Scholes option pricing model to calculate compensation costs associated with options granted to employees. Total compensation costs are recorded over the option vesting period, generally three years using the straight-line attribution method. The Company recognizes the effects of forfeitures in compensation cost when they occur.

Revenue recognition

General

On January 1, 2018, the Company adopted ASC 606 "Revenue from Contracts with Customers" (ASC 606).

The Company's sources of revenues are as follows:

- › Product revenue includes sales of pigments and security taggants and sales of equipment
- › Service revenue includes:
 - › Secure Transactions software licensing and support as well as development services to customize our software to meet specific customer needs
 - › Maintenance and repair services related to manufactured equipment
 - › Research and development services
- › License and royalty for the use of the Company's know-how and technology

Revenue is recognized when control of the promised goods or services is transferred to customers, in an amount that reflects the consideration expected to be entitled to in exchange for those goods or services. This condition normally is met when the product has been delivered or upon performance of services.

When contracts with customers include multiple performance obligations, significant judgment is involved in determining whether each performance obligation is distinct or should be combined with other performance obligations within the contract. In addition, the transaction price is allocated to each distinct performance obligation using an estimate of stand-alone selling price. Estimating the stand-alone selling price requires significant judgment and is generally based on observable prices or a cost plus margin approach.

Product revenue is generally recognized upon transfer of control of the product at a point in time upon delivery of the product to the customer pursuant to the terms of the contract.

Revenues for maintenance and repairs and research and development services are generally recognized over time as the services are performed. Revenues for fixed-price services are generally recognized over time applying input methods to estimate progress to completion.

Generally, our software contracts contain multiple promised goods and services, including the following: (i) term software license; (ii) installation and training; (iii) unspecified future enhancements; (iv) maintenance and support; and (v) optional professional services in the future. The term software license, installation and unspecified future enhancements are considered one performance obligation as the software is dependent on the installation and the enhancements are critical to the utility of the software. As the enhancements are delivered over time, revenue is recognized ratably over the term of the contract. Maintenance and support services are provided over the term of the contract and revenue is recognized over time based on the term of the contract. Future professional services, if any, are recognized over time based on hours incurred.

During 2018, the Company executed both a supply agreement and a technology license agreement with an existing customer to continue supplying an existing product and extend the rights to the underlying technology in perpetuity. The customer will pay reduced rates for the product but will pay approximately US\$10,500,000 in eleven payments over five years for the technology license. The extended payment terms were negotiated by the customer to ensure supply of product and therefore do not represent a significant financing component. The Company has combined the contracts as per the guidance in ASC 606 as both contracts were negotiated at the same time. The Company has identified two performance obligations: (i) the option to purchase product; and (ii) the technology and stand-ready obligation as the customer is required to pay the US\$10,500,000 regardless of whether or not they purchase product and the technology cannot be used by the customer unless the Company defaults on its obligations within the agreements. The Company allocated approximately US\$1,800,000 to the option to purchase product based on observable stand-alone selling prices and will recognize this revenue at each point in time as product is delivered. The Company allocated approximately US\$8,700,000 to the technology and stand-ready obligation based on the residual approach and will recognize this revenue over time as royalty revenue, ratably over five years.

During 2021, the Company initiated work on contracts with a central bank to develop new sensors for the authentication of its banknotes. During 2022, the Company and this customer executed a contract amendment that increased the number of new sensors being developed. The Company has combined the contracts and amendment per ASC 606 guidance, considered to be a package and therefore, a single performance obligation; prototype sensors. Revenue is recognized over time as the prototype sensors do not have an alternate use due to their specialized nature. Revenue is recognized on a percentage of completion basis using costs incurred to date relative to total estimated costs at completion to measure progress. Interim milestone payments are received as work progresses.

NOTES TO THE FINANCIAL INFORMATION *continued*

for the years ended December 31, 2022 and 2021

Note B – Significant accounting policies continued**Revenue recognition continued****General continued**

During 2022, the Company entered into a contract with a central bank to procure critical long lead time materials for new sensors. Per ASC 606 guidance, as the Company satisfies its performance obligation of receiving, testing and accepting each long lead time material, ownership will be passed to the customer and revenue will be recognised.

Revenue is reported net of incentive rebates and discounts.

The following table summarizes the type of revenue for the years ended:

	December 31,	
	2022	2021
Product	\$ 11,207,801	\$ 9,281,096
Maintenance, repair and research and development services	5,217,390	3,649,688
License and royalty	1,738,453	1,786,910
Total Authentication Systems revenue	18,163,644	14,717,694
Secure Transactions revenue	1,463,093	1,874,630
	\$ 19,626,737	\$ 16,592,324

Credit terms are predominately short-term in nature. As such, there is not a significant financing component within the customer contracts.

Contract balances and other disclosures

Timing of revenue recognition may differ from the timing of invoicing to customers. The Company records an unbilled receivable when revenue is recognized prior to invoicing and a contract liability (deferred revenue) when cash payments are received or due in advance of performance. Software customers typically pay an upfront license fee and equipment maintenance contracts are typically billed annually in advance. Deferred revenue expected to be realized within one year is classified as a current liability. The following table summarizes the activity in our contract liabilities for the reporting period and the ending balance by operating segment:

	December 31, 2022	December 31, 2021
Balance, beginning of year	\$ 2,942,313	\$ 2,217,403
Currency translation	(11,580)	504
Deferral of revenue	10,206,066	4,873,690
Revenue recognized	(6,831,416)	(4,149,284)
Balance, end of year	\$ 6,305,383	\$ 2,942,313
Authentication Systems	5,045,764	1,767,055
Secure Transactions	1,259,619	1,175,258
	\$ 6,305,383	\$ 2,942,313

As of December 31, 2022, there was an unbilled receivable of approximately US\$982,490 within unbilled and other receivables on the balance sheet which will be invoiced in 2023. As of December 31, 2021, there was an unbilled receivable of approximately US\$464,000 within unbilled and other receivables on the balance sheet which was invoiced in 2022.

Revenue allocated to remaining performance obligations represents contracted revenue that has not yet been recognized ("contracted not recognized revenue"), which includes unearned revenue and amounts that will be invoiced and recognized as revenue in future periods. Contracted not recognized revenue was US\$32,461,955 as of December 31, 2022, of which we expect to recognize approximately 46% of the revenue over the next twelve months, 39% over the following twelve months and the remaining 15% thereafter. This percentage depends on our estimate of future work performed which cannot be predicted with certainty.

Warranties

If a warranty is applicable, a warranty liability is recorded at the time of sale. The warranty liability is estimated by assessing historical experience to the current applicable population. Warranty costs may differ from those estimated if actual claim rates are higher or lower than our historical rates.

Research and development

Internal research and development costs are expensed as incurred. Certain third party research and development costs are capitalized in connection with contracted work. These costs are expensed as certain milestones are achieved. Overhead, general and administrative and training costs are expensed as incurred.

Note B – Significant accounting policies continued

Research and development continued

Costs incurred internally in researching and developing a computer software product to be sold to customers are charged to expense until technological feasibility has been established for the product. Once technological feasibility is established, software costs are capitalized until the product is available for general release to customers. Judgment is required in determining when technological feasibility of a product is established. The amortization of these capitalized software costs is included in cost of revenue over the estimated life of the products which is estimated to be ten years.

Income tax

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income taxes. The benefits from net operating losses carried forward may be impaired or limited in certain circumstances. In addition, a valuation allowance can be provided for deferred tax assets when it is more likely than not that all or some portion of the deferred tax asset will not be realized. For 2022 estimated federal and state tax liabilities are US\$318,000 and US\$365,000, respectively. For 2021 estimated state tax liabilities are US\$262,000 and no federal tax liability.

Advertising costs

Advertising costs are charged to expense when incurred. Advertising expense was US\$nil for both 2022 and 2021.

Shipping and handling

The Company reports the cost of shipping and handling as an operating expense. Shipping and handling expense was US\$146,996 and US\$110,451 for 2022 and 2021, respectively.

Recent accounting guidance

Management has reviewed all recently issued accounting pronouncements and determined there were no recent accounting pronouncements that had a material impact on the Company's financial statements or that were adopted during the current reporting period. Management will continue to monitor and assess the impact of any new accounting pronouncements issued in the future that may be relevant to the Company's financial statements.

Note C – Related party transactions

On September 30, 2015, the Company purchased certain assets from Solaris in exchange for US\$213,917 in cash. The agreement required the Company to pay Solaris 10% of any revenues hereafter received by the Company from the commercial exploitation of the assets. The Chief Executive Officer of Solaris is also the Chief Executive Officer of Spectra. No royalty payments were made during the years ended December 31, 2022 and 2021.

On December 10, 2020, the Company invested US\$702,000 in Solaris and increased its equity interest from 4.79% to 48.65% on an as-converted basis. Prior to the investment, the Chief Executive Officer of Spectra owned 84.54% of Solaris which declined to 46.01% after the transaction. As part of the transaction, the Company was to provide US\$100,000 of services at cost to Solaris. These services were fully provided in 2021. In addition, the Company provides nominal accounting support to Solaris and allows Solaris use of optical table space and facilities at Spectra. In accordance with Delaware law, the transaction was (i) unanimously approved by all three of Spectra's Non-executive Directors and (ii) specially approved by a majority-in-interest of the disinterested stockholders of Solaris. In addition, going forward Spectra's shares in Solaris will be voted as directed by Spectra's Non-executive Directors.

Note D – Inventories

Inventories consist of the following:

	December 31,	
	2022	2021
Raw materials	\$ 1,642,046	\$ 1,705,151
Work in process	105,875	–
Finished goods	1,294,811	988,852
Total	3,042,732	2,694,003
Less: reserve for excess and obsolete inventory	(1,444,000)	(750,000)
	\$ 1,598,732	\$ 1,944,003

NOTES TO THE FINANCIAL INFORMATION *continued*

for the years ended December 31, 2022 and 2021

Note E – Property and equipment

Property and equipment consists of the following:

	December 31,	
	2022	2021
Laboratory equipment	\$ 1,491,395	\$ 1,386,396
Computer and office equipment	321,438	311,099
Furniture and fixtures	129,910	114,354
Leasehold improvements	1,562,186	1,546,714
Software	486,349	411,651
Manufacturing equipment	2,185,565	1,427,756
Total	6,176,843	5,197,970
Less: accumulated depreciation	(4,075,080)	(3,758,804)
	\$ 2,101,763	\$ 1,439,166

Depreciation expense amounted to US\$321,429 and US\$307,468 for the years ended December 31, 2022 and 2021, respectively.

Note F – Leases

The Company holds three real estate leases. During 2018, the Company signed a lease agreement for corporate office space which expires in October 2023. The Company extended its lease agreement for manufacturing and warehouse space in East Providence through October 2027. To support the Secure Transactions Group, the Company signed a lease which has been extended through January 2025. The Company's lease for laboratory space in East Providence has been extended through May 2028. Certain real estate leases include one or more options to renew, with renewal terms that can extend the lease term for up to five years. Operating lease costs were US\$411,767 and US\$400,854 for the years ended December 31, 2022 and 2021, respectively.

Future minimum lease payments are as follows:

Year ending December 31,	
2023	\$ 331,257
2024	280,361
2025	265,292
2026	268,575
2027	248,632
2028	52,775
	\$ 1,446,892

Supplemental information related to leases are as follows:

	December 31, 2022
Weighted average remaining lease term	4.86 years
Weighted average discount rate	5.7%

Note G – Intangible assets

Intangible assets consist of the following:

	December 31,	
	2022	2021
Patents	\$ 5,267,821	\$ 4,809,167
Customer relationships	3,043,000	3,043,000
Non-compete agreements	188,440	188,440
Developed technology	1,502,000	1,502,000
Tradename	30,000	30,000
Trademarks	206,269	188,577
Goodwill	3,040,607	3,040,607
Total	13,278,137	12,801,791
Less: accumulated amortization	(6,222,996)	(5,640,972)
	\$ 7,055,141	\$ 7,160,819

Amortization expense amounted to US\$582,026 and US\$510,328 for the years ended December 31, 2022 and 2021, respectively.

Estimated amortization expense is as follows:

	Year ending December 31,
2023	\$ 521,998
2024	459,135
2025	446,634
2026	363,876
2027	346,155
Thereafter	1,876,736
	\$ 4,014,534

Goodwill by operating segment is as follows:

	December 31,	
	2022	2021
Authentication Systems	\$ 1,763,661	\$ 1,763,661
Secure Transactions	1,276,946	1,276,946
	\$ 3,040,607	\$ 3,040,607

Note H – Other assets

Other assets consist of the following:

	December 31,	
	2022	2021
Supplier deposits	\$ 500,000	\$ –
Rental deposits	18,611	18,726
Capitalized software costs, net	79,350	92,575
	\$ 597,961	\$ 111,301

Amortization expense of capitalized software costs amounted to US\$13,225 for both of the years ended December 31, 2022 and 2021.

NOTES TO THE FINANCIAL INFORMATION *continued*

for the years ended December 31, 2022 and 2021

Note I – Accrued expenses and other liabilities

Accrued expenses and other liabilities consist of the following:

	December 31,	
	2022	2021
Employee compensation	\$ 289,727	\$ 299,221
Sales allowance and rebates	41,486	38,371
Professional fees	105,645	87,000
Property and franchise taxes	10,246	10,904
Other	56,714	76,278
	\$ 503,818	\$ 511,774

Note J – Income taxes

The approximate components of the income tax provision are as follows:

	December 31,	
	2022	2021
Income tax provision (benefit) computed at:		
Federal statutory rate – current	\$ 2,463,000	\$ 1,478,000
State statutory rate – current	821,400	492,000
Federal deferred	(1,554,000)	(215,000)
State deferred	(519,000)	(71,000)
Change in valuation allowance	(310,000)	(806,000)
Income tax expense	\$ 901,400	\$ 878,000

A reconciliation of the statutory federal income tax rate with our effective income tax rate was as follows:

	December 31,	
	2022	2021
Statutory federal rate	21.0%	21.0%
State income taxes, net of income tax benefit	7.0%	6.9%
Non-deductible expenses and other	84.9%	59.1%
Change in valuation allowance	(100.0)%	(72.2)%
Effective tax rate	12.9%	14.8%

Approximate deferred income tax assets are as follows:

	December 31,	
	2022	2021
Depreciation and amortization	\$ (289,000)	\$ (329,000)
Deferred revenue	1,766,000	295,000
Federal tax credits	–	870,000
Inventory	404,000	182,000
Bad debt	–	2,000
Net operating carryforward	–	370,000
Valuation allowance	–	(310,000)
Total deferred income tax assets	\$ 1,881,000	\$ 1,080,000

As of December 31, 2022, the Company expects to fully utilize net operating loss and tax credit carryforwards to offset federal income tax.

As of December 31, 2021, the Company has net operating loss carryforwards expiring between 2022 and 2036 for US federal income tax purposes of approximately US\$1,800,000. A valuation allowance has been established for US\$310,000 as of December 31, 2021 for the deferred tax benefit related to those loss carryforwards and other deferred tax assets.

Note J – Income taxes continued

At December 31, 2021, the Company also had approximately US\$870,000 of tax credit carryforwards that are available to offset federal liabilities. The credits will begin to expire between 2022 and 2031 for federal tax purposes.

The utilization of the tax carryforwards described above is dependent upon future profitability prior to any expiration dates. Additionally, alternative minimum taxes, if any, and substantial changes in ownership and tax laws and regulations may substantially limit their realization.

The Company accounts for the effect of any uncertain tax positions based on a “more likely than not” threshold to the recognition of the tax positions being sustained based on the technical merits of the position under scrutiny by the applicable taxing authority. If a tax position or positions are deemed to result in uncertainties of those positions, the unrecognized tax benefit is estimated based on a “cumulative probability assessment” that aggregates the estimated tax liability for all uncertain tax positions. The Company is not currently under examination by any taxing jurisdiction. The Company’s federal and state income tax returns are generally open for examination for three years following the date filed.

Note K – Commitments and contingencies

The Company is involved from time to time in litigation incidental to the conduct of its business. The Company is not currently a party to any lawsuit or proceeding.

Supply agreements

As of December 31, 2022, the Company had commitments to purchase approximately US\$161,000 of materials and services during 2023.

Employment contracts

The Company has made contractual commitments to certain employees providing for severance payments, including salary continuation, upon the termination of employment by the Company without substantial cause or by the employee for good reason. The contracts also generally provide for certain protections in the event of a change in control of the Company. These protections include the payment of certain severance benefits, such as salary continuation, upon the termination of employment following a change in control.

Note L – Stockholders’ equity

Common and preferred stock

On July 25, 2011, the Company raised US\$20,241,179, net of offering costs, on the London Stock Exchange in a placing of 18,592,320 common shares at a placing price of £0.753 per new common share, representing 41.09% of the enlarged common share capital of the Company. As a result of the offering, anti-dilution provisions found in the Company’s Amended and Restated Certificate of Incorporation converted all of the issued and outstanding preferred shares into 17,185,052 common shares, giving 26,659,050 common shares in issue at the time of the placing. At December 31, 2022 there were 45,011,001 common shares outstanding and no preferred shares in issue.

Share repurchases

On April 9, 2019, the Board of Directors approved, for an extendable period of twelve months therefrom, a share buy-back authority in respect of up to 4,500,000 common shares of the Company. The Board has extended this share buy-back authority through March 31, 2023. All shares repurchased are retired and restored to authorized and unissued shares. The Company repurchased 500,000 shares at a total cost of US\$807,347 and 500,000 shares at a total cost of US\$1,170,107 during the years ended December 31, 2022 and 2021, respectively. As of December 31, 2022, a total of 1,646,000 shares have been repurchased under the share buy-back authority.

Dividends

The Board of Directors declared the following dividends:

Declaration date	Record date	Payment date	Dividend per share		Amount
March 18, 2022	June 6, 2022	June 24, 2022	\$	0.11	\$ 5,004,414
March 22, 2021	June 4, 2021	June 25, 2021	\$	0.095	\$ 4,302,256

NOTES TO THE FINANCIAL INFORMATION *continued*

for the years ended December 31, 2022 and 2021

Note L – Stockholders' equity *continued***Stock option plan**

In May 2007, the Company adopted the 2007 Stock Plan (the "2007 Plan"), which provided for the grant of incentive stock options and nonqualified stock options, stock awards and stock purchase rights for the purchase of up to 14,100,000 shares of the Company's common stock to officers, employees, consultants and Directors of the Company. The Board of Directors is responsible for administration of the 2007 Plan. The Board determines the term of each option, the option exercise price, and the number of shares for which each option is granted and the rate at which each option is exercisable. Incentive stock options (ISO) may be granted to an officer or employee at an exercise price per share of not less than the fair value per common share on the date of the grant (not less than 110% of fair value in the case of holders of more than 10% of the Company's voting stock) and with a term not to exceed ten years from the date of the grant (five years for ISOs granted to holders of more than 10% of the Company's voting stock). As the 2007 Plan is over ten years old, tax regulations prevent the issuance of further ISOs. Nonqualified stock options may be granted to consultants or Directors at an exercise price per share of not less than 85% of the fair value of the common stock. Stock options generally vest over three years and are exercisable over a period up to ten years from the date of grant. As of December 31, 2022, options to purchase 3,593,667 shares of common stock were outstanding and 1,279,379 shares of common stock have been issued under the 2007 Plan. As of December 31, 2022, 9,226,954 shares of common stock were available for grant under the 2007 Plan.

Information related to stock options granted by the Company is summarized as follows:

	December 31, 2022		December 31, 2021	
	Number of shares under option	Weighted average exercise price	Number of shares under option	Weighted average exercise price
Outstanding at beginning of year	3,012,667	\$ 0.51	3,719,667	\$ 0.59
Granted	1,008,000	1.82	60,000	2.44
Exercised	(207,357)	0.44	(248,920)	0.56
Forfeited/canceled	(219,643)	1.35	(518,080)	1.20
Outstanding at end of year	3,593,667	\$ 0.80	3,012,667	\$ 0.51

The following table summarizes information about stock options outstanding at December 31, 2022:

Exercise price range	Options outstanding			Options exercisable		
	Number of outstanding shares	Weighted average contractual life (years)	Weighted average exercise price	Number of shares	Weighted average exercise price	
\$0.30-\$0.49	2,398,667	3.40	\$ 0.30	2,398,667	\$ 0.30	
\$1.31-\$2.23	1,195,000	8.70	1.80	219,000	1.55	
	3,593,667	5.16	\$ 0.80	2,617,667	\$ 0.41	

As of December 31, 2022, the weighted average contractual life for exercisable stock options was 3.62 years.

The Company's stock price closed at US\$2.09 (£1.75) on December 31, 2022. As of December 31, 2022, the aggregate intrinsic value for outstanding and exercisable stock options was US\$4,672,930 and US\$4,410,392, respectively. Intrinsic value for stock options is defined as the difference between the current market value of the stock and the exercise price. The intrinsic value represents the value that would have been received by the option holders had the option holders exercised all of their options as of that date.

The Company currently uses the Black-Scholes option pricing model to determine the fair value of its stock options. The valuations determined using this model are affected by assumptions regarding a number of complex and subjective variables including stock price, volatility, expected life of options, risk free interest rates, and expected dividends, if any. The weighted average grant date fair value of stock options granted was US\$1.82, and US\$2.44 for the years ended December 31, 2022 and 2021, respectively. The assumptions used to value stock option grants are as follows for the year ended:

Note L – Stockholders' equity continued**Stock option plan continued**

	December 31,	
	2022	2021
Risk free rate	3.73%	0.83%
Expected life (years)	6.5	7
Assumed volatility	42.75%	45.28%
Expected dividends	5.80%	4.0%

The following table summarizes stock-based compensation expense for the year ended:

	December 31,	
	2022	2021
Cost of sales	\$ —	\$ 14,895
Research and development	60,076	14,022
General and administrative	65,549	26,387
Sales and marketing	17,356	15,592
	\$ 142,981	\$ 70,896

As of December 31, 2022, there was approximately US\$398,795 of unrecognized compensation cost, related to unvested stock-based payments granted to our employees and Directors, which is expected to be recognized over a weighted average period of 1.7 years. Total unrecognized compensation cost will be adjusted for future changes in forfeitures and recognized over the remaining vesting periods of the stock grants.

Note M – Employee retirement plan

During 1999, the Company adopted a defined contribution plan, established under the guidelines of Section 401(k) of the Internal Revenue Code (IRC), which covers all employees. Employees are eligible to participate in the employee retirement plan (the "Plan") at the beginning of the first month following the date of hire. Employees may contribute up to the maximum allowed by the IRC of eligible pay on a pretax basis. The Company made a matching contribution of 50% of employee contributions up to 4% of eligible salary. Company matching contributions vest at 25% after one year of service, 50% at the end of two years of service and 100% at the end of three years of service. For the years ended December 31, 2022 and 2021, the Company's matching contributions were US\$45,580 and US\$40,035, respectively.

Note N – Segment reporting

In accordance with ASC 280, management has identified three operating segments. The first is the Authentication Systems Group, which captures the hardware, software and materials related to the authentication of banknotes, tax stamps and other high-value goods. The second segment is the Secure Transactions Group, which provides an Internal Control System (ICS) software offering to the lottery and gaming industries. ICS provides tools for fraud, money laundering and match fixing detection, as well as statistical analysis. The third segment is the Banknote Cleaning Group, which captures the technology related to cleaning and disinfecting banknotes.

Information for each reportable segment as of December 31, 2022 and 2021 is as follows:

		Gross revenue	Income (loss) from operations	Depreciation and amortization	Capital expense	Segment assets
2022	Secure Transactions	\$ 1,463,093	\$ 23,593	\$ 30,804	\$ 89,349	\$ 1,970,128
	Authentication Systems	18,163,644	7,015,510	838,928	898,816	35,595,128
	Banknote Cleaning	—	(46,163)	46,947	—	452,009
	Total	\$ 19,626,737	\$ 6,992,940	\$ 916,679	\$ 988,165	\$ 38,017,265
2021	Secure Transactions	\$ 1,874,630	279,974	\$ 39,527	\$ 1,158	\$ 1,882,745
	Authentication Systems	14,717,694	5,704,398	737,634	68,715	30,787,305
	Banknote Cleaning	—	(74,371)	53,860	6,232	482,267
	Total	\$ 16,592,324	\$ 5,910,001	\$ 831,021	\$ 76,105	\$ 33,152,317

NOTES TO THE FINANCIAL INFORMATION *continued*

for the years ended December 31, 2022 and 2021

Note O – Earnings per share

The calculation of basic earnings per share is based on the net income divided by the weighted average number of common shares outstanding. Diluted earnings per share is calculated by considering the dilutive impact of common stock equivalents under the treasury stock method as if they were converted into common stock as of the beginning of the period or as of the date of grant, if later. Excluded from the calculation of diluted earnings per common share for the years ended December 31, 2022 and 2021 were 186,773 and 125,425 shares, respectively, related to stock options because their exercise prices would render them anti-dilutive. The following table shows the calculation of basic and diluted earnings per common share:

	December 31, 2022	December 31, 2021
Numerator		
Net income	\$ 6,147,374	\$ 5,162,830
Denominator		
Weighted average number of common shares outstanding	45,189,208	45,353,550
Effect of dilutive securities		
Stock options	2,132,610	2,385,480
Diluted weighted average number of common shares outstanding	47,321,818	47,739,030
Earnings per common share		
Basic	\$ 0.14	\$ 0.11
Diluted	\$ 0.13	\$ 0.11

Note P – Subsequent events

The Company evaluated all events or transactions that occurred through March 20, 2023, the date these financial statements were available to be issued.

On March 16, 2023, the Company declared a dividend of US\$0.115 per share to be paid on or around June 23, 2023 to shareholders of record as of June 2, 2023.

SHAREHOLDER AND CORPORATE INFORMATION

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Its knowledge of optical physics in incorporating taggants and high-speed reading of covert features enables Spectra to provide the highest level of banknote security worldwide.

Spectra Systems (SPSY.L) is listed on the London Stock Exchange



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