

# CONFIDENTIAL BUSINESS PLAN



# Lumenco

[www.lumenco.com](http://www.lumenco.com)

May 12, 2022

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# Executive Summary

## Opportunity

### Problem Summary

Lumenco is targeting two markets, the banknotes security features and EMI (electromagnetic interference) shielding.

**a) EMI:**

With growing advancements in wireless technology and increased signal sensitivity in devices, there has been a greater demand for shielding in avionic equipment.

The electromagnetic interference caused by induction or external radiation may affect the electrical circuit of the aircraft. Electromagnetic interference can cause temporary and permanent disruption in the circuit components. The induced electric fields may be intentional or unintentional but is a significant problem for advanced devices that degrade or entirely destroy the avionic equipment.

**b) Banknote Security Feature:**

Today, banknotes are high-tech products with numerous different security features distributed over well-defined security levels. “The key drivers determining the requirement for, and the type of, banknotes used around the world remain the need to provide security in the banknote ahead of the counterfeiter’s capabilities, the durability and efficiency of the banknote in circulation and the level of economic activity. Market demand for banknotes continues to grow on average at about 4 per cent annually although the rate varies around the world reflecting local circumstances.

### Target Market / Competition

**a) EMI**

The **global EMI shielding** market size is projected to grow from USD 6.2 billion in 2021 to reach USD 7.7 billion by 2026; it is expected to grow at a CAGR of 4.4% from 2021 to 2026.

The growth of the EMI shielding market is majorly driven by surging demand for consumer electronics, increasing electromagnetic pollution, and ongoing field trials and pilot tests evincing the viability of 5G.

**b) Banknote Security Feature:**

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There are currently around 357 billion banknotes in circulation worldwide. Their average circulation lifespan ranges from under 12 months to several years. About 150 billion banknotes are printed every year to replace the worn notes taken out of circulation. For example, the European Union is producing around 8 billion new banknotes a year.

## **Solution Summary**

Lumenco has been a micro-optics company with a large patent portfolio in currency anti-counterfeiting, brand protection, lighting, solar, projection screens and most recently EMI. Lumenco has multi-year license agreements in brand protection, currency, and lighting providing minimum guarantees and much larger future revenues. Lumenco is just now coming out of pre revenue into revenue after about 9 years of development.

Lumenco's ownership in LenSys Sarl, a joint venture with Koenig and Bauer in Switzerland in the banknote anticounterfeiting space and projected future royalties of over \$50 million in the next 10 years.

## **Marketing Summary**

Lumenco will use the capital to commercialize new anti-counterfeiting currency features owned by Lumenco but developed under a research program with the US Government, as well as exciting new lightweight electromagnetic shielding technologies developed for the aerospace industry.

## **Break-Even Summary**

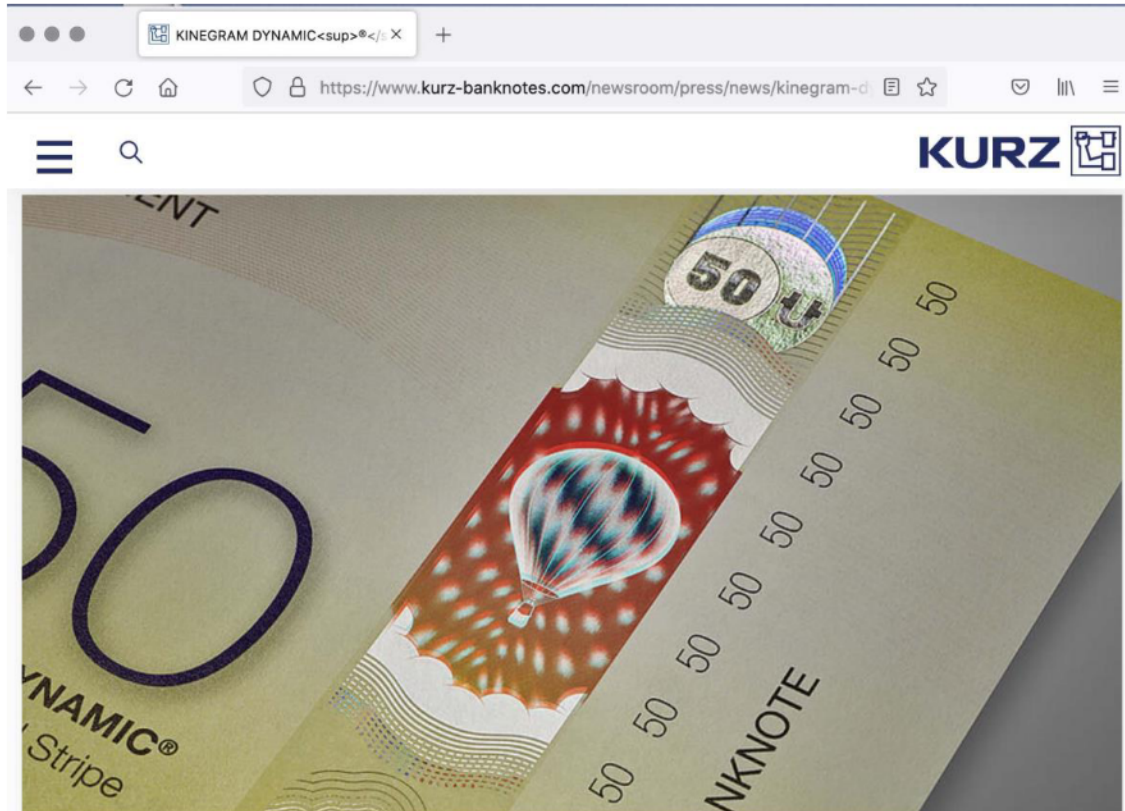
Current Overhead is roughly \$95,000 per month. Since revenues are mostly royalties, licensing and R and D currently break-even is about \$110-\$150,000 per month. Again, with additional capital to commercialize new opportunities Lumenco should cash flow well past break even.

## **Why Us?**

Lumenco now has dozens of patents in several industries worldwide and has been profitable for the last few years, and more importantly has designed and built custom equipment and processes for these features.

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- *Lumenco Websites*
    - [www.lumenco.com](http://www.lumenco.com)
    - [www.nanopixel.com](http://www.nanopixel.com)
    - [www.lumencoclarify.com](http://www.lumencoclarify.com)
  
  - *Lumenco Partners & Licensees*
    - Brand Protection, Accesos Holográficos: <https://accesosholograficos.com.mx/>
    - Currency Joint Venture (LenSys Sarl) Partner, Koenig, and Bauer: <https://banknote-solutions.koenig-bauer.com/en/>
    - Currency JV Licensee, Leonard Kurz: <https://www.leonhard-kurz.com/>
    - Kurz New Licensed Feature (Lumenco tech): [https://www.youtube.com/watch?v=M3Y\\_nNCHiMY](https://www.youtube.com/watch?v=M3Y_nNCHiMY)
    - Lumenco Lighting Technology Licensee, Bixby International: <https://www.bixbyintl.com/>
    - Theater Light Diffusion Licensee, Rosco: <https://us.rosco.com/en>
    - Mirraviz -Direct throw laser screen technologies: <https://mirraviz.com/products/mirraviz-laser-tv-screen-projector?variant=41741052772520>
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## KINEGRAM DYNAMIC® – New Dynamics for Safer Banknotes

KURZ has been a global leader in banknote security for more than 30 years. Based on the proprietary KINEGRAM® origination technology, the portfolio of security effects and technologies is constantly advanced.

The latest development marks the ultimate combination of security and appearance: KINEGRAM DYNAMIC®, unveiled on February 16<sup>th</sup>, 2022, in a webinar hosted by KURZ, is a solution that takes banknote security to a new level. Lens-based security elements for banknotes combine striking deep-view effects with eye-catching movement and engaging colors. The resulting features are nothing short of a revolution in visual appearance and security.

Highly attractive and truly intuitive, the authenticity of banknotes can be verified at a glance, with the 3D effect of KINEGRAM DYNAMIC® virtually absorbing the viewer into the feature. Multiple colors add to the visual allure and the versatile design options. The technology combines the best of all worlds in one highly secure, intuitive and visually appealing security element.

To experience KINEGRAM DYNAMIC® in a short interview with our experts, [🔗](#) please click here or [📧](#) contact our sales team for samples. More information on our [🌐](#) global references is available here.

KURZ is a globally leading supplier of banknote security elements, providing feature design, project consultancy, application expertise, as well as machine and stamping die technology. KURZ solutions are the essential element for banknote security.

KBA-NotaSys :: KBA-NotaSys and Lumenco launch LenSys joint-venture

www.kba-notasys.com/news-and-events/press-releases/kba-notasys-and-lumenco-launch-lensys-joint-venture/

CS6 Short-Circ. PVEducation What are th... wers | NLRIP LED Lightl...g Explained energysemin...osldes.pdf FTP Performance SIGGRAPH 2013 Web Mail VMware

**KBA**  
**NotaSys**

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Press Releases

**KBA-NotaSys and Lumenco launch LenSys joint-venture**  
10 December 2014

**Lausanne, 10 December 2014.** KBA-NotaSys S.A. of Lausanne, Switzerland and Lumenco Inc. of Englewood, CO, United States of America are pleased to announce that they are combining their technologies and expertise through the formation of a joint venture, LenSys Sarl, which will focus on the development, sales and marketing, of a new range of novel level-one security features.

The family of features proposed by LenSys combines Lumenco's patented micro lens optics with KBA-NotaSys' precise multi-color offset elements produced on the Super Simultan press. The strength of the feature is the easy recognition by the general public with stunning color and shape changing effects.

The offset element and its associated lens structure are designed and originated in combination to ensure both functionality and security. The combination of elements - the lenses themselves and the offset print enhance the security of the feature through the layered construction and at the same time provide unrivalled flexibility in banknote design even allowing the integration of the feature in an existing note design.

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Eric Boissonnas, CEO of KBA-NotaSys, describes KBA-NotaSys' motivation to create this joint venture as: "Another step in positioning our Super Simultan technology as the most cost-efficient way of creating highly-secure level-one security features. The combination of Lumenco's expertise in micro lens technology and the improved Simultan technology will create very striking security features. We are thrilled to now be able to present this to the market and develop the features even further.

Mark Raymond and Hector Porras, founders of Lumenco, comment: "Lumenco's goal was to find a respected development and commercialization partner that understood the technical aspects of its technology and the potential of printed micro lenses integrated into banknotes.

KBA-NotaSys represents a solid partner that will allow Lumenco to commercialize its micro lens technologies at the highest level and we are very excited to have the best possible partner in the banknote industry."

The new company, LenSys Sarl, is registered in Switzerland and will be managed by a board composed of representatives from both KBA-NotaSys and Lumenco. The day-to-day operation of the company will be headed by Michael Blesovsky who has a long established track-record in the industry.

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## **Financing**

### **Financing Needed**

Lumenco is looking for capital to commercialize banknote technology developed under contract with the Federal Reserve and BEP, as well as its newly tested lightweight EMI shielding for aircraft and satellites.

### **Sources of Funds**

Lumenco has been reinvesting in technologies since inception (self-funding all development) and has done only one round of capital investment from outside sources in about 10 years. Lumenco now has fully developed technologies ready for market and requires more capital to fully commercialize these technologies and take them to market.

### **Use of Funds \$6,000,000**

Total Proceeds	6,000,000
Net Proceeds of Offering	6,000,000
Legal related to Patents	145,000
Testing EMI Shielding	257,000
Testing New Currency tech	350,000
Sales Samples	85,000
Marketing	550,000
Equipment	2,427,000
Inventory	186,000
Debt retirement	700,000
Equity buy back LenSys Sarl	800,000
Working Capital	500,000
<b>Total</b>	<b>6,000,000</b>

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# Opportunity

## Problem & Solution

### A) EMI

#### Problem Worth Solving

With growing advancements in wireless technology and increased signal sensitivity in devices, there has been a greater demand for shielding in avionic equipment.

The electromagnetic interference caused by induction or external radiation may affect the electrical circuit of the aircraft. Electromagnetic interference can cause temporary and permanent disruption in the circuit components. The induced electric fields may be intentional or unintentional but is a significant problem for advanced devices that degrade or entirely destroy the avionic equipment. Thus, there has been a greater need for aircraft EMI shielding to save the electronics and prevent severe accidents that might occur due to electronic interference between the pilot and the connecting tower.

The **global EMI shielding** market size is projected to grow from USD 6.2 billion in 2021 to reach USD 7.7 billion by 2026; it is expected to grow at a CAGR of 4.4% from 2021 to 2026.

The growth of the EMI shielding market is majorly driven by surging demand for consumer electronics, increasing electromagnetic pollution, and ongoing field trials and pilot tests evincing the viability of 5G.

The global **Aircraft/Airspace EMI shielding market is projected to reach US\$ 993.0 million in 2024**. Increasing use of modern electronic equipment, advancement in EMI shielding technologies, and rising global aircraft fleet size are the major growth drivers of the market.

The market is segmented based on the aircraft type as Commercial Aircraft, Military Aircraft, Regional Aircraft, General Aviation, Helicopter, and UAV. **Commercial aircraft is expected to remain the growth engine** of the market during the forecast period.

The market is segmented as Equipment Shielding, Structural Shielding, and Bonding. **Equipment shielding is expected to remain the most dominant application segment** of the market during the forecast period, propelled by increasing shielding requirements for electrical equipment, avionics, and aircraft wiring and growing usage of electronic devices and digital systems in avionic systems.

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Based on the product type, the market is segmented as Conductive Coatings & Paints, Laminates, Tapes & Foils, Cable Over braids, Conductive Gaskets, and others. Conductive coatings & paints are expected to remain the dominant product type in the market during the forecast period, whereas the laminates, **tapes & foils** segment is expected to witness the highest growth in the same period, driven by an ongoing replacement of metal parts with composite ones, owing to the advantage of excellent strength-to-weight ratio at a relatively low weight.

#### **Global Aircraft/Airspace EMI Shielding Market Key Player**

Some of the market participants identified across the value chain of global Aircraft/Airspace EMI Shielding market are:

- Glenair, Inc
- Parker Hannifin Corporation (Chomerics Division)
- W. L. Gore & Associates, Inc.
- The 3M Company
- Laird Plc
- PPG Industries, Inc.
- Simotec (Thailand) Co. Ltd.
- HEICO Corporation
- Henkel AG & Co. KGaA

#### **Pricing of commercially available EMI Shielded films and Tapes**

The price of EMI Shielding products depends on their shielding effectiveness requirements, applications, conductive material type, and volumes.

3M and Laird are the largest suppliers of EMI shielding tapes charge between \$170/m<sup>2</sup> and \$500/m<sup>2</sup> for their products. Usually, the tape dimensions are from 1" or 3" wide, ranging from 50ft to 100ft.

Parker Chomerics, the largest supplier of EMI shielding films, charges between \$200/m<sup>2</sup> and \$300/m<sup>2</sup> for their films.

In our case, the price will mostly depend on the metal and deposition type and the volumes. Roughly assuming that the cost of our microstructure EMI shielding film (12" wide, with a length of 2500ft) is \$10,000, we are talking about \$43/m<sup>2</sup>, which gives us a relatively good profit margin with the selling price between \$200 and \$300/m<sup>2</sup>.

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## Our Solution

### EMI SHIELDING

Hi-Tech Application of Lumenco Technology



EMI (ElectroMagnetic Interference) Shielding is an essential concept to many devices as a protectant for critical components against electromagnetic fields. This is especially crucial for complex machines and assemblies in the aerospace and computing fields.

NASA lists the costs-per-pound to put a payload into orbit at rough \$10,000. As such, the ideal system for this involves an extremely lightweight material that disperses these fields effectively.

Lumenco recently lab-tested one of their experimental materials (patents pending) with very positive results. The material is a microstructured-film with a very thin metallized layer deposition coating. As this test was pursued to simply see if we are "in the ballpark", we did not expect such great results. The material was able to shield evenly across a large frequency range, where standard shielding has various peaks/valleys throughout the frequency bands. Our material is also significantly lighter (over 50% lighter) than the top competitors, which makes this approach highly attractive.

### **Proposed Proof of Concept Development Paths of Preparation Conductive Micro-Structured Film/Tape for Multiple EMI Shielding Applications**

#### ***Solution One: ITO Sputter Deposition on multiple microfacet-based micro structured polypropylene film***

ITO, or tin-doped indium-oxide, coatings used on optically clear polymer films are specially designed to reduce glare and enhance clarity in digital displays. The ITO coatings provide excellent electrical conductivity and optical transparency and are used as transparent electrodes in most display products.

These unique coatings can be deposited by reactive electron-beam evaporation or magnetron sputtering onto microcavities of micro structured, flexible films. ITO is robust and has a good sheet resistance range and high UV-Visible and Near IR transmission.

In addition, we can deposit other conductive metals like silver, chromium, and copper using evaporation, sputtered, or electron-beam deposition processes on different microstructure elements, including patterned and positive lens designs. However, the alternative metals are more expensive, heavier, and less transmissive than ITO.

#### ***Solution Two: Extrusion Embossing and/or Injection Molding of Conductive Plastics that have micro structured surface***

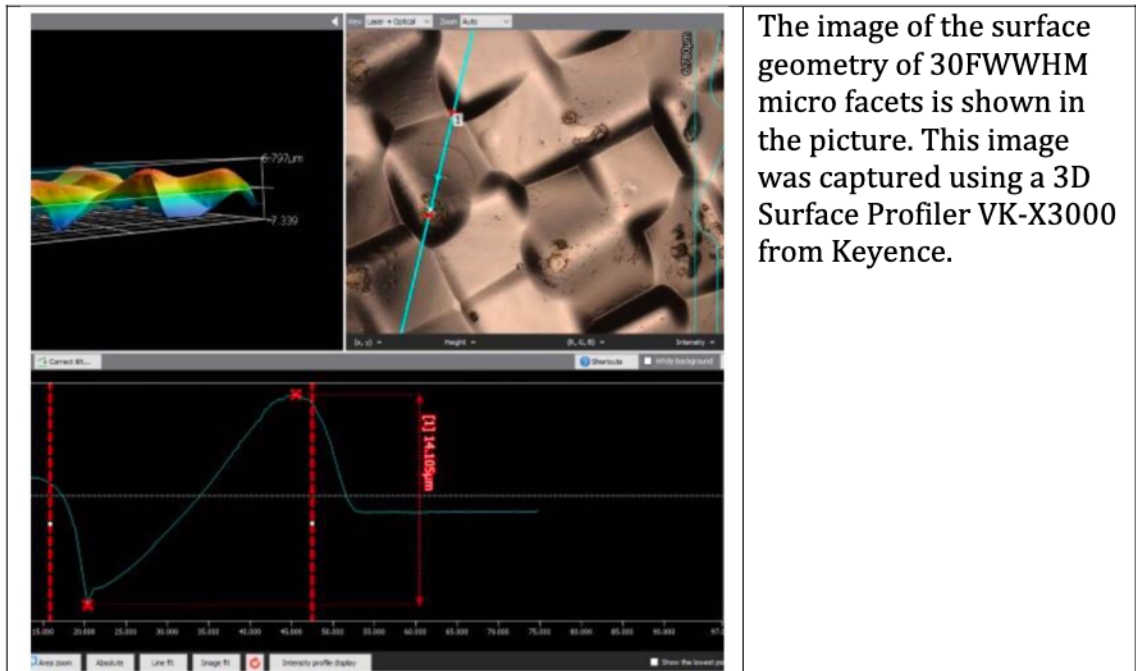
Conductive plastics blend thermoplastic and conductive fillers that provide world-class shielding effectiveness and require no machining, plating, painting, or other added

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processing steps. Depending on the application (gaskets, grounding products, EMI Shielding tapes, etc.) and EMI shielding requirements, a blend can be based on any lightweight thermoplastic polymer (like PP, PC, ABS, etc.) and a conductive filler like nickel-plated carbon fibers, nickel graphite powder, etc. Usually, the conductive masterbatch is a single component pellet system ready for injection molding or extrusion. These materials provide shielding effectiveness greater than 85 dB, mechanical durability, high electrical conductivity, and low weight.

The two largest suppliers of conductive plastics can provide the conductive masterbatches and plastic compounds for EMI shielding applications: Parker Chomerics and RTP.



**The comparison technical data of competitive EMI shielding foils is shown in the table**

**Lumenco's micro structured EMI shielding copper film performing better and much lighter weight.**

EMI Shielding Foil Type	Micro structured EMI Shielding copper film	EMI Shielding Copper Foil No. 3006	EMI Shielding Copper Foil C-18	EMI Shielding Amucor aluminum foil 4701
Supplier	Lumenco	Zippertubing	Lamart Corporation	Holland Shielding Systems
Total Film Thickness,	60 $\mu\text{m}$	33 $\mu\text{m}$	41.2 $\mu\text{m}$	38 $\mu\text{m}$
PET film thickness	50 $\mu\text{m}$	20.3 $\mu\text{m}$	23.4 $\mu\text{m}$	23 $\mu\text{m}$
Cast micro structured pattern	10 $\mu\text{m}$	n/a	n/a	n/a
Metal film thickness, $\mu\text{m}$	0.1 $\mu\text{m}$	12.7 $\mu\text{m}$	17.8 $\mu\text{m}$	12 $\mu\text{m}$
Weight per square meter	87g/m <sup>2</sup>	175g/m <sup>2</sup>	245g/m <sup>2</sup>	68 g/m <sup>2</sup>
Shielding Effectiveness at 100MHz	52	85	105	53
Elongation at Break	>5%	10%	>5%	>90%
Resistivity, $\mu\text{ohm. Cm}$	<2.5	<2.5	<2.5	2.7-2.9
Dielectric Strength, kV	>2	>2	5	>4

## B) Banknote Security Feature

## **Problem Worth Solving**

Today, banknotes are high-tech products with numerous different security features distributed over well-defined security levels. “The key drivers determining the requirement for, and the type of, banknotes used around the world remain the need to provide security in the banknote ahead of the counterfeiter’s capabilities, the durability and efficiency of the banknote in circulation and the level of economic activity. Market demand for banknotes continues to grow on average at about 4 per cent annually although the rate varies around the world reflecting local circumstances.

## **Our Solution**

Under BEP contract, Lumenco developed a completely different algorithm and IP than what was licensed and used by both KURZ and KBBS. Over \$10 million dollars was spent on this technology by the BEP. The project was discontinued with the BEP due to capacity issues at the BEP in Dallas and DC.

This new algorithm and corresponding software have been tested and used for 6 years. It has full freedom to operate from any other micro lens technology in the market. To be clear the IP and software is not what was licensed to Lensys or Kurz.

The pixel mapping used to generate the images is a completely new approach, that combined with Lumenco’s proprietary high-res printing or high res demet technology can generate dramatic and sophisticated (hard to mimic) effects on paper bank notes. A thread product on a single denomination can require about 100,000 Km / month. High end products in this market are sold for \$160/ KM  
Lumenco technology is ready for market.

## **Target Market / Competition**

### **Market Size & Segments**

#### **Currency Anti-Counterfeiting**

The currency anti-counterfeiting market is about a \$4 billion market per year, with about a dozen companies in the supply chain. The largest players in the market are G and D, Kurz,

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Sicpa and Crane currency. Each of these companies represent more than \$500 million in annual sales. Kurz is the largest feature (non-thread provider) provider for anti-counterfeiting solutions and is a licensee of Lumenco technology through Lumenco's joint venture partner Koenig and Bauer and has just launched and commercialized Kinegram Dynamic, Lumenco technology after about \$5 million in commercialization costs.

Lumenco will focus its "Pixel Displacement" technology developed for the BEP in the thread market with manufacturing in Mexico and France. South American countries are being targeted (such as Brazil and Argentina). Lumenco is in discussion with the currency paper providers for these countries for supply into these countries. Potential current opportunities for these countries are more than \$3 million per month for this feature.

#### **EMI Shielding**

Per the above the market is estimated at \$6.2 billion for 2021 and expected to be over \$7 billion by 2025.

## **Our Solution**

### **Unfair Competitive Advantages / Solving Unmet Needs**

Lumenco's core competency revolves around creative abilities to that allow the creation of micro-optic solutions for industries from currency anti-counterfeiting to solar energy. From this foundation, Lumenco™ has generated a large IP portfolio with patents in light diffusion and management, anti-counterfeiting, micro mirror reflectors, screen technologies, thin film solar devices, and ultra-lightweight electromagnetic shielding for aircrafts and aerospace.

## **Marketing & Sales**

### **Marketing Plan**

#### ***Light Diffusion and Light Management***

- Bixby International, Lumenco's lighting licensee with Lumenco's patented technologies is a 100+ year old company and is building both a marketing and sales team for lighting. Potential customers include Acuity Brands, Heil and others. Lumenco receives royalties and annual guarantees in that agreement.
- Rosco is already in the marketplace and Lumenco receives royalties on that technology.

#### ***Brand Protection (Nanopixel™ brand)***

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- Accesos Holográficos is our core licensee and is in Mexico City. They have sales offices throughout Mexico and South America and have a technology and royalty agreement with Lumenco, as well as a reciprocal manufacturing agreement for brand protection for Lumenco clients.
- Lumenco has several products and ongoing marketing efforts in the United States and has clients such as Colgate, Allergan, Diageo and others in the prototype stages as paying customers. Press releases, Zoom marketing emails and other promotions will continue.

### ***Currency Anti-Counterfeiting***

- Lumenco has a joint venture with Koenig and Bauer Banknote Solutions. K & B Solutions makes over 95% of the equipment used to produce banknotes worldwide and has every central bank in the world as a customer. With this reach, new features are being presented by the JV into the banknote area directly and through licensee Leonard Kurz. Kurz is the largest anti-counterfeiting feature provider in the world with features in more than 100 countries and is the exclusive feature provider for the Euro. As a licensee through Lumenco's JV, they have an aggressive marketing and sales operation worldwide as can be seen with Lumenco's licensed feature, Kinegram Dynamic [https://www.youtube.com/watch?v=M3Y\\_nNCHIMY](https://www.youtube.com/watch?v=M3Y_nNCHIMY)
- Lumenco New Technology "Pixel Displacement" developed under contract with the United States BEP. The BEP spent more than \$10 million developing this technology with Lumenco but is now completely owned by Lumenco. With the new success of Kinegram Dynamic, Lumenco has a great deal of credibility in the banknote arena. Several articles are coming out soon for Lumenco in currency News and other publications and several large, international companies are in talks with Lumenco to commercialize this technology for the banknote industry.

### ***EMI Shielding***

- Lumenco will begin to pursue an aggressive strategy of press releases, articles as PR for this new lightweight EMI shielding.
- Online advertising will also be a focus for EMI tapes, window and building coverings and so forth.
- Another specific target area will be the aerospace industry and associated publications.

## **Sales Plan**

Lumenco's licensees in different sectors include dozens of salespeople in their key areas. However, Lumenco will take the lead in the new currency technologies and EMI shielding and will use raised capital to put a team together.

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## Operations

### Locations & Facilities

Lumenco occupies an 8,000 square foot facility in Englewood, Colorado with lab, offices, warehouse, and manufacturing. Lumenco looks to move in about 12 months to a slightly larger, but less expensive facility in a different zone.

### Technology

Software of all types including ray tracing software, interlacing software and optical design software has been written internally at Lumenco for years. The software is protected and proprietary for Lumenco and its licensees. Lumenco has an extensive IP portfolio per the below.

Case Number	Country	Subcase	Title	Application Status	Application Number	Filing Date	Patent Number	Issue Date
79906.001	AU	01	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	2013312883	4-Sep-13	2013312883	27-Jun-17
79906.001	CA	03	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	2,884,155	4-Sep-13	2,884,155	11-Apr-17
79906.001	CH	05	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	13835055.8	4-Sep-13	2893390	16-Nov-16
79906.001	CN	34	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	201380055465.0	4-Sep-13	ZL201380055465.0	26-Sep-17
79906.001	DE	05	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	13835055.8	4-Sep-13	602013014265.3	16-Nov-16
79906.001	EP	05	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Appealed	13835055.8	4-Sep-13	2893390	16-Nov-16
79906.001	FR	05	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	13835055.8	4-Sep-13	2893390	16-Nov-16
79906.001	GB	05	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	13835055.8	4-Sep-13	2893390	16-Nov-16
79906.001	HK	08	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	16100261.4	4-Sep-13	1212454B	16-Nov-16
79906.001	MX	13	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	MX/a/2015/002911	4-Sep-13	348176	5-Jun-17
79906.001	RU	77	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	2015112287	4-Sep-13	2621173	31-May-17
79906.001	US	00	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	14017,415	4-Sep-13	9,132,690	15-Sep-15
79906.001	US	17	PIXEL MAPPING, ARRANGING, AND IMAGING FOR ROUND AND SQUARE-BASED MICRO LENS ARRAYS TO ACHIEVE FULL VOLUME 3D AND MULTI-DIRECTIONAL MOTION	Granted	14820,861	7-Aug-15	9,701,150	11-Jul-17
79906.002	AU	01	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	2014315695	27-Feb-14	2014315695	9-May-19
79906.002	CA	03	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	2923132	3-Mar-16	2923132	8-Sep-20
79906.002	CN	34	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	201480060437.2	27-Feb-14	ZL201480060437.2	7-May-19
79906.002	CN	82	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	201810338774.3	27-Feb-14	201810338774.3	21-Apr-20
79906.002	EP	05	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Published	14842836	27-Feb-14		



Case Number	Country	Subcase	Title	Application Status	Application Number	Filing Date	Patent Number	Issue Date
79906.002	JP	10	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	2016-540873	27-Feb-14	6349401	8-Jun-18
79906.002	MX	13	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	MX/a/2016/002927	27-Feb-14	359175	18-Sep-18
79906.002	US	00	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	14/190,592	26-Feb-14	9,019,613	28-Apr-15
79906.002	US	17	PIXEL MAPPING AND PRINTING FOR MICRO LENS ARRAYS TO ACHIEVE DUAL-AXIS ACTIVATION OF IMAGES	Granted	14/658,304	16-Mar-15	9,592,700	14-Mar-17
79906.003	AU	01	SLANTED LENS INTERLACING	Granted	2013352469	25-Nov-13	2013352469	7-Dec-17
79906.003	CA	03	SLANTED LENS INTERLACING	Granted	2,892,915	25-Nov-13	2,892,915	17-Oct-17
79906.003	CN	74	SLANTED LENS INTERLACING	Granted	201380071266.9	25-Nov-13	ZL201380071266.9	27-Apr-18
79906.003	EP	05	SLANTED LENS INTERLACING	Published	13859072.4	25-Nov-13		
79906.003	MX	13	SLANTED LENS INTERLACING	Granted	MX/a/2015/006866	25-Nov-13	348257	5-Jun-17
79906.003	US	00	SLANTED LENS INTERLACING	Granted	14/088,519	25-Nov-13	9,383,588	5-Jul-16
79906.004	AU	01	SLANT LENS INTERLACING WITH LINEARLY ARRANGED SETS OF LENSES	Granted	2015264559	25-Nov-16	2015264559	6-Feb-20
79906.004	CN	34	SLANT LENS INTERLACING WITH LINEARLY ARRANGED SETS OF LENSES	Granted	201580037897.8	12-May-15	ZL201580037897.8	6-Nov-18
79906.004	EP	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED SETS OF LENSES	Published	15795987.5	24-Nov-16		
79906.004	HK	08	SLANT LENS INTERLACING WITH LINEARLY ARRANGED SETS OF LENSES	Granted	16103333.2	25-Nov-13	HK1215474	19-Jul-19
79906.004	IN	56	SLANT LENS INTERLACING WITH LINEARLY ARRANGED SETS OF LENSES	Pending	201617040793	12-May-15		
79906.004	US	00	SLANT LENS INTERLACING WITH LINEARLY ARRANGED SETS OF LENSES	Granted	14/282,271	20-May-14	9,052,518	9-Jun-15
79906.004	US	17	SLANT LENS INTERLACING WITH LINEARLY ARRANGED SETS OF LENSES	Granted	14/722,992	27-May-15	9,482,791	1-Nov-16
79906.008	AU	01	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	2014395153	25-Nov-16	2014395153	27-Feb-20
79906.008	CA	03	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	2,950,253	20-May-14	2,950,253	12-Feb-19
79906.008	CH	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	14892272.7	24-Nov-16	3145728	12-Feb-20
79906.008	CN	34	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	201480080534.8	20-May-14	ZL201480080534.8	3-Sep-19
79906.008	DE	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	14892272.7	24-Nov-16	602014061088.9	12-Feb-20
79906.008	EP	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	14892272.7	24-Nov-16	3145728	12-Feb-20
79906.008	FR	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	14892272.7	24-Nov-16	3145728	12-Feb-20
79906.008	GB	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	14892272.7	24-Nov-16	3145728	12-Feb-20
79906.008	LI	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	14892272.7	24-Nov-16	3145728	12-Feb-20
79906.008	NL	05	SLANT LENS INTERLACING WITH LINEARLY ARRANGED LENSES	Granted	14892272.7	24-Nov-16	3145728	12-Feb-20
79906.009	US	00	OPTICAL SECURITY ELEMENTS WITH OPAQUE MASKS FOR ENHANCED LENS-TO-PRINTED PIXEL ALIGNMENT	Granted	15/980,352	15-May-18	10,369,832	6-Aug-19
79906.009	WO	16	OPTICAL SECURITY ELEMENTS WITH OPAQUE MASKS FOR ENHANCED LENS-TO-PRINTED PIXEL ALIGNMENT	Published	PCT/US2018/032782	15-May-18		

Case Number	Country	Subcase	Title	Application Status	Application Number	Filing Date	Patent Number	Issue Date
79897.001	US	00	CONVERSION OF A DIGITAL STEREO IMAGE INTO MULTIPLE VIEWS WITH PARALLAX FOR 3D VIEWING WITHOUT GLASSES	Granted	13/749,861	25-Jan-13	9,786,253	10-Oct-17
79897.005	US	00	MULTI-LAYERED WAVEGUIDE FOR CAPTURING SOLAR ENERGY	Granted	14/258,759	22-Apr-14	9,477,033	25-Oct-16
79897.014	DE	05	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	16871264.4	16-May-18	3362827	29-Sep-21
79897.014	DE	07	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	202016008971.0	1-Feb-21	202016008971.0	15-Feb-21
79897.014	EP	05	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	16871264.4	16-May-18	3362827	29-Sep-21
79897.014	EP	93	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Allowed	21184802.3	9-Jul-21		
79897.014	FR	05	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	16871264.4	16-May-18	3362827	29-Sep-21
79897.014	HK	08	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Unfiled				
79897.014	IE	05	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	16871264.4	16-May-18	3362827	29-Sep-21
79897.014	MT	05	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	16871264.4	16-May-18	3362827	29-Sep-21
79897.014	US	00	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	15/162,113	23-May-16	10,189,294	29-Jan-19
79897.014	US	17	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Granted	16/203,128	28-Nov-18	10,901,191	26-Jan-21
79897.014	US	36	ARRAYS OF MICRO MIRRORS FOR USE IN IMAGING SECURITY DEVICES	Published	17/152,623	19-Jan-21		
79897.015	US	00	ARRAYS OF INDIVIDUALLY ORIENTED MICRO MIRRORS PROVIDING INFINITE AXIS ACTIVATION IMAGING FOR IMAGING SECURITY DEVICES	Granted	15/588,831	8-May-17	10,317,691	11-Jun-19
79897.020	AT	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	CH	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	DE	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	602017032978.9	17-Feb-21
79897.020	EP	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	ES	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	FR	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	GB	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	IT	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	502021000037676.0	17-Feb-21
79897.020	LI	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	MT	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.020	SE	05	LENS-BASED SECURITY DEDICATED TO INDIVIDUAL COLORS FOR CURRENCY AND BRAND AUTHENTICATION	Granted	17860563.0	14-May-19	3526053	17-Feb-21
79897.029	US	00	MULTI-FACETED DIFFUSER PROVIDING SPECIFIC LIGHT DISTRIBUTIONS FROM A LIGHT SOURCE	Granted	16/894,489	5-Jun-20	10,914,875	9-Feb-21
79897.029	US	17	MULTI-FACETED DIFFUSER PROVIDING SPECIFIC LIGHT DISTRIBUTIONS FROM A LIGHT SOURCE	Published	17/144,504	8-Jan-21		
79897.029	WO	16	MULTI-FACETED DIFFUSER PROVIDING SPECIFIC LIGHT DISTRIBUTIONS FROM A LIGHT SOURCE	Published	PCT/US2020/041390	9-Jul-20		
79897.032	US	00	DIFFUSER COMBINING A MULTI-FACETED SURFACE AND A LENS COVERED SURFACE TO PROVIDE SPECIFIC LIGHT DISTRIBUTIONS	Published	17/185,680	25-Feb-21		
79897.033	US	50	MICRO DE-METALLIZATION FOR PRODUCING METALLIZED MASKS FOR OPTICAL FEATURES AND EMI APPLICATIONS	Pending	63/318,039	9-Mar-22		

## Equipment & Tools

Lumenco is moving about \$1 million in equipment to its licensee in Mexico City after spending three years developing manufacturing processes for brand protection and currency to a



secured location. The equipment will be fully staffed and available for Lumenco to manufacture.

Lumenco will keep its chemistry lab and associated equipment in Denver as well as its fiber optic welding system for micro-optic tooling.

However, with a successful fund raise new equipment for casting optical structures will be purchased for EMI shielding and other security projects for possible installation in Denver.

## Key Relationships

- *Lumenco Partners & Licensees*
  - Brand Protection, Accessos Holográficos: <https://accesosholograficos.com.mx/>
  - Currency Joint Venture (LenSys Sarl) Partner, Koenig, and Bauer: <https://banknote-solutions.koenig-bauer.com/en/>
  - Currency JV Licensee, Leonard Kurz: <https://www.leonhard-kurz.com/>
  - Kurz New Licensed Feature (Lumenco tech): [https://www.youtube.com/watch?v=M3Y\\_nNCHiMY](https://www.youtube.com/watch?v=M3Y_nNCHiMY)
  - Lumenco Lighting Technology Licensee, Bixby International: <https://www.bixbyintl.com/>
  - Theater Light Diffusion Licensee, Rosco: <https://us.rosco.com/en>

## Milestones & Metrics

### Milestones

Lumenco has signed deals in different categories per the above.

#### Other Key Milestones

- Lumenco will seek to close another license deal in the currency sector in Europe in 2022 with at least \$500K per year in minimum guarantees.
- Lumenco will install equipment in Mexico for currency thread production with its partners in Mexico in 2022.
- Lumenco install equipment for EMI shielding in the United States or Mexico in 2022 and put together a sales team for this market.

### Key Metrics

INSTRUCTIONS: Explain which performance metrics are most important for understanding how your business is doing. What does success mean for you, and how will you know it when you see it?

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## **Break Even Analysis & Commentary**

With a \$500K EBIDA in 2020 and about \$150K in 2021, Lumenco has been cash flowing and more than breaking even, despite multimillion-dollar investments in new technologies in the last few years. Lumenco will continue this trend on an upward scale, both investing and commercializing and moving into real revenue in 2022 and beyond. Management sees no reason that losses during this growth phase will be necessary and they are not projected.

# Financial Plan

## Forecast

### Key Assumptions

Lumenco will use the capital to commercialize new anti-counterfeiting currency features owned by Lumenco but developed under a research program with the US Government, as well as exciting new lightweight electromagnetic shielding technologies developed for the aerospace industry. For this round of capital, a valuation of \$40 million will be used based upon overall IP, Lumenco's ownership in LenSys Sarl, a joint venture with Koenig and Bauer in Switzerland in the banknote anticounterfeiting space and projected future royalties of over \$50 million in the next 10 years. Post investment, Lumenco will look to achieve a \$120 million plus valuation within 3 years and monetize investors capital. A valuation was done by an outside investment bank in 2021 at \$70 million for Lumenco.

Lumenco has been a micro-optics company with a large patent portfolio in currency anti-counterfeiting, brand protection, lighting, solar, projection screens and most recently EMI. Lumenco has multi-year license agreements in brand protection, currency, and lighting providing minimum guarantees and much larger future revenues. Lumenco is just now coming out of pre revenue into revenue after about 9 years of development.

Through its joint venture in Switzerland with Koenig and Bauer Banknote Solutions (LenSys Sarl), Lumenco licensed previously developed micro-optic currency tech to a large currency feature provider in Germany (Leonard Kurz). This technology has been launched into the currency world in the last few months after 4 years and more than \$5 million in commercialization costs. The feature has been very well received by central banks and now is the leader in decisions for several large volume iconic banknotes in the next 3 years. These banknotes could provide royalties of about \$30-\$40 million to Lumenco in the next 10 years, with the first revenues hitting in late 2025 and approximate royalties of \$5 million the first year of implementation, and about \$3-\$4 million per year thereafter.

Forecast: See statement section

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# Company

## Overview

Founded in 2012 by Mark Raymond and Hector Porras, Lumenco Inc. is a development -stage company. In 2013, we incorporated as a C Corporation, registered in Colorado, USA.

Lumenco™ has specific expertise in micro-optics and associated software. Our micro-optic technologies represent a platform that has application across a wide array of diverse markets and industries. We have identified three primary markets to focus our initial development efforts, and we expect near-term commercialization in two of these three markets.

Mark, Hector, and Lumenco™ inventors are recognized in the micro-optics space as leaders in technology development with over forty patents either issued or filed. Additional senior management includes seasoned professionals with extensive experience in development-stage businesses. The Board of Directors is composed of senior management professionals, as well as two outside directors with years of successful business and investment credentials.

## Team

### Management Team

#### **Mark Raymond**

Founder, Chief Executive Officer, Chairman of the Board of Directors

Mark Raymond is a serial entrepreneur and scientist, having founded multiple companies and authored or co-authored over 50 patents in micro-optics in fields from currency anti-counterfeiting to solar, lighting and screen technologies.

Mark has served on the board of directors for various companies over the years and enjoys helping entrepreneurs build and sell businesses.

Mark is considered one of the world's foremost authorities on micro-lens imaging design and reproduction including software development, lab testing and production.

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### **Hector Porras**

Founder, Vice President of Research + Development, Director.

Hector brings significant experience in developing new lenticular technologies with a wide variety of applications to Lumenco. He began his career as a television show producer for Chilean National Television.

In 2006, Hector shifted gears and served as Account Manager for DCL Motion Products, a developer of lenticular products. Prior to joining the Lumenco team, Hector served as Product Development Engineer for Genie Lens Technologies, LLC, a developer of anti-counterfeiting, solar, and lenticular products. An industrial civil engineer, Hector also contributes his experience as COO in several manufacturing and logistics companies.

### **Michael German**

Brand Solutions Development

Michael German leads Scientific development of pigments, inks, and coating chemistries, now for new Lumenco® NanoDye™ process. Michael has a long career beginning in digital printing ink at Indigo® (Israel), launching the original USA strategic development projects in 2001, and later launched Gans Security Ink in California for years.

### **Tyler Kapus**

Technology Development Supervisor

With a background in 3D animation, Tyler Kapus has utilized his passion for knowledge and technology by bringing new ideas into the field of light management. During his five-year career at Lumenco, he has been a driving force in pushing many of Lumenco's light-based technologies forward. In addition to being the primary designer and operator of Lumenco's proprietary raytracing software, he also leads a design team focused specifically on lens-based graphic security technologies.

### **Advisors**

**INSTRUCTIONS:** Describe any mentors, investors, former professors, industry or subject-matter experts, knowledgeable friends or family members, small-business counselors, or others who can help you as a business owner.

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## Statements

<b>Lumenco</b>				
<b>Financial Projection (Thousands \$)</b>				
<b>May-22</b>				
	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
<b>Revenue:</b>				
Accesos Holograficos	\$ 500	\$ 850	\$ 1,445	\$ 2,000
Bixby	\$ 150	\$ 300	\$ 600	\$ 800
Lensys (Kurz support agreement)	\$ 120	\$ 120	\$ 120	\$ 120
Lensys - Kurz Kinegram Dynamic Royalty			\$ 600	\$ 5,000
Pixel Displacement Tech (BEP)	\$ 500	\$ 1,200	\$ 1,200	\$ 2,000
R&D Testing (currency)	\$ 500	\$ 400	\$ 400	\$ 400
EMI Shielding	\$ 350	\$ 2,400	\$ 2,400	\$ 4,000
NanoPixel Brand Security Sales	\$ 350	\$ 1,100	\$ 2,000	\$ 2,500
Currency (South America)	\$ 350	\$ 4,000	\$ 5,000	\$ 6,000
AntiMicrobial Film	\$ 255	\$ 600	\$ 1,200	\$ 1,500
<b>Total Revenue</b>	<b>\$ 3,075</b>	<b>\$ 10,970</b>	<b>\$ 14,965</b>	<b>\$ 24,320</b>
<b>Cost of Sales:</b>				
Accesos Holograficos	\$ 200	\$ 340	\$ 578	\$ 800
Bixby	\$ -	\$ -	\$ -	
Lensys (Kurz support agreement)	\$ 50	\$ 50	\$ 50	\$ 50
Lensys - Kurz Kinegram Dynamic Royalty			\$ 50	\$ 120
Pixel Displacement Tech (BEP)	\$ 150	\$ 360	\$ 360	\$ 400
R&D Testing (Currency)	\$ 200	\$ 160	\$ 160	\$ 160
EMI Shielding	\$ 50	\$ 343	\$ 343	\$ 571
NanoPixel Brand Security Sales	\$ 125	\$ 393	\$ 714	\$ 893
Currency (South America)	\$ 100	\$ 1,800	\$ 2,250	\$ 2,700
AntiMicrobial Film	\$ 120	\$ 282	\$ 565	\$ 706
<b>Total Cost of Sales</b>	<b>\$ 995</b>	<b>\$ 3,728</b>	<b>\$ 5,070</b>	<b>\$ 6,400</b>
<b>Gross Profit</b>	<b>\$ 2,080</b>	<b>\$ 7,242</b>	<b>\$ 9,895</b>	<b>\$ 17,920</b>
<b>Expenses:</b>				
Salaries and Benefits	\$ 840	\$ 1,134	\$ 1,588	\$ 2,381
Research & Development	\$ 120	\$ 162	\$ 227	\$ 340
Rent	\$ 132	\$ 178	\$ 249	\$ 374
Utilities	\$ 12	\$ 16	\$ 23	\$ 34
Corporate insurance	\$ 42	\$ 57	\$ 79	\$ 119
Travel	\$ 30	\$ 41	\$ 57	\$ 85
Office Expenses	\$ 20	\$ 27	\$ 38	\$ 57
Other	\$ 30	\$ 41	\$ 57	\$ 85
<b>Total Expenses</b>	<b>\$ 1,226</b>	<b>\$ 1,655</b>	<b>\$ 2,317</b>	<b>\$ 3,476</b>
<b>Cash Flow</b>	<b>\$ 854</b>	<b>\$ 5,587</b>	<b>\$ 7,578</b>	<b>\$ 14,444</b>

# Appendix

## Lumenco, Inc. & Subsidiary Consolidated Balance Sheets December 31, 2021

	12/31/2021	12/31/20
<b>ASSETS</b>		
Current Assets:		
Cash	\$ 333,628	\$ 74,224
Accounts Receivable	44,367	214,845
Inventory	103,470	100,872
Other Current Assets	7,554	7,170
Total Current Assets	<u>489,019</u>	<u>397,111</u>
Property, Plant and Equipment	1,025,941	974,804
Accumulated Depreciation	<u>(607,715)</u>	<u>(443,621)</u>
Net Property, Plant and Equipment	418,226	531,183
Patents	360,016	360,016
Accumulated Amortization	<u>(157,920)</u>	<u>(133,919)</u>
Net Patents	202,096	226,097
Total Assets	<u>\$ 1,109,341</u>	<u>\$ 1,154,391</u>
<b>LIABILITIES AND SHAREHOLDERS EQUITY</b>		
Current Liabilities:		
Accounts Payable and Accrued Expenses	\$ 8,318	\$ 26,326
Down Payment on Equipment Sale	250,000	-
Interest Payable, Related Party	304,102	249,184
Accrued Wages Payable	-	19,632
Related Party Notes Payable	26,367	57,991
Related Party Convertible Notes Payable	<u>300,000</u>	<u>300,000</u>
Total Current Liabilities	888,787	653,133
Long Term Debt	408,784	539,532
Total Liabilities	<u>1,297,571</u>	<u>1,192,665</u>
Shareholders Equity:		
Series A Preferred Stock, no par value: 1,000,000 shares authorized; 714,285 issued and outstanding; liquidation preference of \$2,499,998	2,499,998	2,499,998
Common Stock, no par value: 100,000,000 shares authorized; 35,000,000 shares issued and outstanding	3,050,500	3,050,500
Contributed Capital	621,346	621,346
Accumulated Deficit	<u>(6,360,074)</u>	<u>(6,210,118)</u>
Total Shareholders Equity	(188,230)	(38,274)
Total Liabilities and Shareholders Equity	<u>\$ 1,109,341</u>	<u>\$ 1,154,391</u>





**Lumenco, Inc. & Subsidiary**  
**Consolidated Income Statements**  
**December and 2021**

	December	2021
Revenue	\$ 43,502	\$ 1,955,789
Cost of Sales	<u>\$ 175,123</u>	<u>\$ 206,733</u>
Gross Profit	\$ (131,621)	\$ 1,749,056
Operating Expenses:		
Salaries and Benefits	71,921	1,094,661
Research & Development	1,338	123,964
Occupancy:		
Rent	9,434	112,712
Utilities	1,527	19,896
Cleaning Expense	264	3,338
Total Occupancy	<u>11,225</u>	<u>135,946</u>
Corporate Insurance	3,423	45,960
Marketing	-	7,112
Auto Expense	850	14,541
Bank Service Charge	218	4,356
Travel	344	27,570
Meals & Entertainment	60	10,454
Office Expenses	3,992	37,680
Postage & Delivery	2,571	35,035
Incoming Freight	826	21,393
Software Expense	109	11,933
Outside Services	177	15,213
Professional Fees	1,500	162,208
Other	235	4,802
Total Operating Expenses	<u>98,789</u>	<u>1,752,828</u>
PPP Income	-	137,534
EBIDA	(230,410)	133,762
Interest Expense	57,661	95,623
Depreciation	13,916	164,094
Amortization	2,000	24,001
Net Income	<u>\$ (303,987)</u>	<u>\$ (149,956)</u>

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**Lumenco, Inc. & Subsidiary**  
**Consolidated Statement of Cash Flows**  
**Year Ending December 31, 2021**

**Cash Flow Provided by (Used In) Operating Activities:**

Net Income	\$ (149,956)
Depreciation	164,094
Amortization	24,001
<b>Changes in Current Assets and Liabilities:</b>	
Decrease (Increase) in Accounts Receivable	170,478
Decrease (Increase) in Inventory	(2,598)
Decrease (Increase) in Other Current Assets	(384)
Increase (Decrease) in Accounts Payable and Accrued Expenses	36,910
Increase (Decrease) in Down Payments	250,000
Increase (Decrease) in Accrued Wages Payable	(19,632)
Increase (Decrease) in Related Party Notes Payable	(31,624)
<b>Net Cash Provided by (Used In) Operating Activities</b>	<b>441,289</b>

**Cash Flow Provided by (Used In) Investing Activities:**

Purchase of Property, Plant and Equipment	(51,137)
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**Cash Flow Provided by (Used In) Financing Activities:**

Principal Payments of Long Term Debt	(130,748)
<b>Change in Cash Flow</b>	<b>259,404</b>
Beginning Cash	74,224
<b>Ending Cash</b>	<b>\$ 333,628</b>

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# LENSYS

Balance Sheet	at 31 December 2021	at 31 December 2020
<b>ASSETS</b>	USD	USD
<b>CURRENT ASSETS</b>		
Cash	287'388.66	209'632.56
Accounts receivable	25'000.00	25'000.00
Other	-	47.60
<b>Total assets</b>	<b>312'388.66</b>	<b>234'680.16</b>
<b>LIABILITIES AND EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable	0.00	0.00
Current account KBA-NotaSys SA	-22'672.52	-715'602.50
Other current liabilities	76.63	-
<b>Total current liabilities</b>	<b>-22'595.89</b>	<b>-715'602.50</b>
<b>EQUITY</b>		
Common Stock	-34'148.65	-19'097.25
Contributed capital	-849'420.85	-849'420.85
Reported loss	682'878.44	1'510'995.68
(+) Loss/ (-) Gain of the year	-89'101.71	-161'555.24
Accumulated deficit	593'776.73	1'349'440.44
<b>Total Equity</b>	<b>-289'792.77</b>	<b>480'922.34</b>
<b>Total Equity and Liabilities</b>	<b>-312'388.66</b>	<b>-234'680.16</b>

Lausanne, 23 March 2022

# LENSYS

Income statement	2021	2020	2021 vs 2020	Remarks
	USD	USD		
<b>Revenue</b>	<b>343'750.00</b>	<b>300'000.00</b>	<b>-106'250.00</b>	
Administration cost	-1'434.60	-1'419.24	-15.36	
Consulting fees	-218'645.12	-154'984.62	-63'660.50	
Travel & Representation fees	-1'546.66	-1'973.11	426.45	Less travel costs in 2020 and in 2021 than in 2019 due to corona
Administrative expenses	-221'626.38	-158'376.97	65'886.20	
Cost of Research and Development			-	invoices from Lumenco are since April 2018 sent to NotaSys
Patent fee	-56'117.17	-44'199.21	-11'917.96	
Research and development expenses	-56'117.17	-44'199.21	-5'875.96	
<b>Total Operating expenses</b>	<b>-277'743.55</b>	<b>-202'576.18</b>	<b>60'010.24</b>	
Income from release of provisions		78'817.55	-78'817.55	Reversal provision Recharge Lensys 70'184.82 30.06.2020
<b>Total Operating income</b>	<b>-</b>	<b>78'817.55</b>	<b>-78'817.55</b>	
<b>Operating Result (EBIT)</b>	<b>66'006.45</b>	<b>176'241.37</b>	<b>-125'057.31</b>	
Currency exchange (+ gains, - losses, realized & unrealized)	23'517.49	-14'229.55	37'747.04	
Financial expenses (Bank fees)	-422.23	-456.58	34.35	
Extraordinary, non-recurring expenses			-	
<b>Earning before tax (EBT)</b>	<b>89'101.71</b>	<b>161'555.24</b>	<b>-103'385.49</b>	
Income tax			-	
<b>Net result (+ gain, - loss)</b>	<b>89'101.71</b>	<b>161'555.24</b>	<b>-103'385.49</b>	Better result in 2020 was mainly due to the Reversal provision Recharge Lensys and less consultancy fees than in 2021

Lausanne, 23 March 2022