

# North Macedonia Cannabis Growing Facility

Exporting to the European Union, United Kingdom, Canada, South Africa, South America, and Australia

# **Project Plan**

June 2023 Not for Distribution



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Cover image: cannabis flowers<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Source: Adobe Stock Images (licensed)



# 1. Executive Summary

**SIGMA PLANT SCIENCES LLC** ("SPS," "Sigma," or the "Company") is a new venture created for the purpose of pursuing the high-growth legal cannabis opportunities in the United States and Europe.

Sigma has perfected the production of hydroponically grown cannabis in state-of-theart growing facilities to produce high-quality cannabis flower at scale for regulated sellers of medicinal and recreational cannabis products.

Sigma's first facility is the first of three phases in the Republic of North Macedonia, which is situated in Southeastern Europe, surrounded by Bulgaria, Greece, Serbia, Kosovo, and Albania.

# Sigma is seeking a \$500,000 USD investment to complete the first phase of its North Macedonia growing facility and place it in operation.

The building, security fences, security systems, and utility hookups are in place. The facility passed inspection, carried out by North Macedonia permitting agencies, in December 2022, with two fixes required, which have been completed, for issuance of its growing license at the end of January 2023.

The North Macedonia growing license, combined with the facility's Good Manufacturing Practices (GMP) certification, will allow for the export of its cannabis products to the European Union, United Kingdom, South Africa, South America, Australia, and Canada.

The financing being sought is to purchase and install the remaining equipment and initial seedlings to place the facility in operation. With this investment, the facility can be revenue-producing within six months.

# The investor will receive a five-year 10% equity share in the Phase 1 North Macedonia growing facility, with a projected 1.95x average annual return over the five-year period (see Section 6 Financial Highlights and 6.4 Projected Return on Investment).

The North Macedonia growing license and GMP certification provides access to a market that is poised to become the world's largest and fastest growing: encompassing 46 countries with a combined population of more than 1 billion people.

There is increasing demand for medical marijuana throughout the United Kingdom and EU. Several EU counties are moving toward the legalization of recreational marijuana, led by Malta and Georgia (which is pending acceptance into the EU), with Germany in



the process of doing so, Luxembourg not far behind, and other countries, such as Switzerland, Spain, France, and the UK debating the issue.

A potential buyer, a European pharmaceutical firm, tested samples from Sigma's pilot plant facility in late 2020 and found them to be of a higher quality and to contain higher levels of THC than any previous samples it had tested (see <u>Laboratory Test Results</u>).

The pharmaceutical firm has stated that it will purchase 100% of the output from the first, as well as all subsequent phases, of the North Macedonia facility, providing that the samples produced by the full-size commercial facility match the test results from the pilot plant samples.

These results were obtained by Sigma's re-design of existing lighting and equipment and modification of existing growing methods to maximize results. Knowing how to do this is Sigma's competitive strength.

#### **1.1 Competitive Advantages**

**THE COMBINATION** of the management's focus on becoming one of the most reliable, industrial-scale producers of high-quality cannabis plants plus the industry's high-growth make Sigma a unique investment opportunity early in a young industry with enormous potential. The company's competitive advantages include:

- **Better growing technique** aimed at higher quality and volumes. Sigma's "controlled-environment agriculture" hydroponic practices focus on three key productivity factors:
  - Light
  - Environment
  - Nutrients

Sigma's business plan concentrates on:

- Flower and biomass production, avoiding the costs and distractions of retail product manufacturing and markets
- An attractive market where the Sigma's first growing facility has passed inspection for issuance of a growing license that allows for exports to legal, licensed dealers in 46 countries
- Strong growth opportunities: young industry offering multiple avenues for expansion (e.g., new geographies, new products, vertical integration, and consolidation), both organically and via mergers and acquisitions
- **Experienced team** in the set-up and operation of successful hydroponic and aquaponic growing systems



# 2. Company Overview

**SIGMA WAS ESTABLISHED BY ED CICHON** (the "Principal"), an experienced operator in the sector (see **Section 5 Management Team**, below). Sigma's plan is to focus activities on two areas that it considers the most attractive starting point:

- ★ **FLOWER PRODUCTION**, aimed at the production of high-quality cannabis flower for medicinal and recreational market applications<sup>2</sup>.
- ★ CAPSULES (EDIBLES), aimed at the production of slow-release dietary/medicinal supplements (pain relief, sleeping aides, etc.), as well as capsules for recreational users.



#### Figure 2: Sigma target products <sup>3</sup>

Flower will be sold to other businesses (either engaged in the retail side of the business or the processing of cannabis material).

<sup>&</sup>lt;sup>2</sup> It is estimated that c.63% the global marijuana market in 2016 came from marijuana buds (flowers). By the end of 2025, it is estimated to still represent a majority of the market at c.56% (\$83 billion in value). Source: Finances Online / Grand View Research, 2020.

<sup>&</sup>lt;sup>3</sup> Adobe Stock images (licensed)



Sigma's market approach with capsules will be to serve the "mature" cannabis consumers, with a high-quality, differentiated product and experience (as opposed to the "immature" segment of the market which emphasizes quantity rather than quality).

Through its research, Sigma believes that there are currently no comparable, powder-based THC capsules in the market, in the U.S. or EU; and further, that Sigma has a two-plus-year plus lead on any comparable product competitor<sup>4</sup>.

In this respect, Sigma's strategy is akin to providing a topline single-malt scotch (as opposed to a market-average blend). As an indication of market use and potential, according to market surveys, 71% of consumers say they use cannabis for wellness purposes. Of this group, 53% claim that their use of over the counter (OTC) pain treatments has reduced, while 18% say they have stopped using OTC pain treatments completely.

# 3. Market Analysis

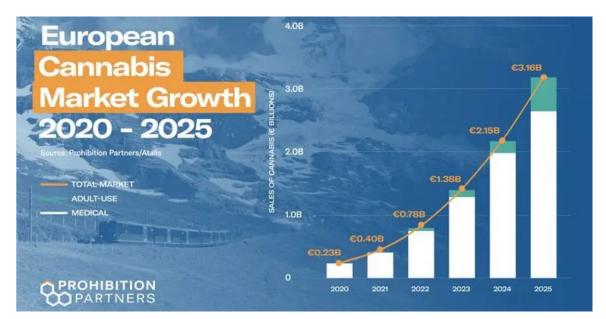
#### 3.1 EU Cannabis Market Overview

**THE EU CANNABIS MARKET IS ONE OF THE YOUNGEST AND FASTEST GROWING INDUSTRIES IN THE WORLD**. At the European market level, where Sigma intends to participate via its North Macedonia facility, industry acceptance and growth stories are playing out.

As shown in Figure 3.1 below, the EU industry's size is €0.4 billion per year (2021 est.) and expected to exceed €3.1 billion (\$3.52 billion) per year in 2025 (a staggering 65%+ CAGR in four years), in Europe alone.

<sup>&</sup>lt;sup>4</sup> PSL's production process (see Section 5 Management) is proprietary and confidential, yet not patented. Related IP opportunities (and threats) to be evaluated by Sigma.





#### Figure 3.1: EU cannabis market size and evolution<sup>5</sup>

These remarkable market growth figures highlight the attractiveness and potential of the industry in the EU.

### 4. Operations

#### 4.1 The Unique Features of SPS' Operations

**SIGMA'S OPERATIONS** are geared to the production of high-yielding cannabis plants that produce high-quality flowers. Through observations and experience, Sigma's principal has determined that the key drivers behind consistent, high-yielding cultivation of hydroponic cannabis are:

- 😾 Light
- **k** Environment
- **k** Nutrients

**LIGHT** is key for any agricultural endeavor. Through photosynthesis, plants capture light and together with water and carbon dioxide produce glucose, which is the energy source driving plant growth.

<sup>&</sup>lt;sup>5</sup> Source: Prohibition Partners, Apr/21.



The selection of highly specialized lights for indoor agriculture is an important determinant of growth, especially those producing light both in the visible and UVA spectrums (ultra-violet A, just below the visible light wave-length range). In addition, Sigma's principal has determined that periodic plant exposure to UVB light makes an important contribution to healthy growth.

#### Figure 4.1-a: Cannabis grow lights sample



As part of his work as project owner-developer in the cannabis space, Sigma's principal co-designed what he believes to be one of the highest-quality, highest yielding indoor cannabis grow lights in the world<sup>6</sup>. Here is a comparison of two cannabis plants grown in the same facility under the same conditions at the same time, one with standard grow lights (on the right) and the other with the Sigma-developed grow lights (on the left):



<sup>6</sup> Sigma will purchase lights, which it has redesigned, from a related third-party, a Hong Kong based, Chinese company owned by one of the principal's family members.



**ENVIRONMENT**, the second driver, is a combination of "climatic" attributes surrounding plant growth. These attributes include controlled temperature and humidity, air flow, carbon dioxide concentrations, pest controls, and others, all optimized for high-quality and high-yield. The design of Sigma's standard production facility includes the deployment of an array of solutions to ensure the best environmental conditions for plant growth.

Equally important, the design has been optimized to achieve the desired outcomes at cost levels well below industry averages; these have been achieved through the creative application of off-the-shelf equipment to produce desired outcomes. For example, Sigma's plan employs decentralized air conditioning units as shown below, to ensure target conditions in each grow room – versus industry approaches which typically focus on industrial deployment of large, centralized (and expensive) HVAC systems.



#### Figure 4.1-b: Sample HVAC units (and sample installation)

**The third key driver is NUTRIENTS**. Sigma's principal, by drawing on his aquaponics experience, designed a proprietary plant food formula, which is a methodical application via the hydroponic ebb-and-flow system that maximizes plant growth and the production of grade-A flower. Sigma's standard production facility is designed to maximize the three key drivers of quality cannabis plant growth, together with other basic operational considerations like internal movements, nursery production to feed the grow rooms, curing, and inventory management.



# 5. Management Team

Edward (Ed) Cichon Principal, Chief Executive Officer

Ed Cichon is the former owner of a successful construction company based in Rochester, New York, and former CEO/President of Maui Aquaponics, LLC.

Ed was co-founder and manager of <u>Nuponix Labs, Inc.</u>, a New York and Oklahoma operator of aquaponics (hemp) and hydroponic (cannabis) facilities, respectively. Ed resigned from Nuponix in the fall of 2021 and executed a buyout agreement with its investors for his equity in Nuponix to start his own cannabis growing company (Sigma Plant Sciences) which will be operated in tandem with a cannabis marketing company (Gold Leaf Europe) which Ed previously established.

Ed is 100% owner of Gold Leaf Europe, 95% owner of Sigma Plant Sciences, that holds an Oklahoma and, as of the end of January 2023, a North Macedonia growing license, and is a registered applicant for growing licenses in New York and New Jersey.

Ed has a B.S. in Economics from Rochester Institute of Technology. He is a former Series 7 and Series 63 General Securities Registered Representative. Ed has more than 30 years of diverse construction experience. Projects include:

- Developer/builder of numerous commercial and residential construction projects.
- Co-founder and builder of the largest aquaponics facility in North America in 2010 on the island of Maui, Hawaii.
- Recently completed construction of a 40,000 square-foot aquaponic facility in upstate New York.
- Project lead on a 200,000 square-foot indoor cultivation facility in Sarasota, Florida.
- > Project lead for a 110-megawatt solar farm in Town Creek, Alabama.
- Has completed construction of a 12,000 square-foot hydroponics facility in Valliant, Oklahoma which, due to the saturation and shake out in the state's cannabis growing industry, he has been placed on hold.
- Owner/builder of the 6,000 Phase 1 square-foot hydroponics facility in The Republic of North Macedonia.



#### Ron Tisby, MT Chief Compliance Officer

Ron is a New York State licensed medical technologist and field engineer with 30+ years' experience in a heavily regulated, compliance-centric healthcare environment. His experience includes:

- > Developing and publishing standard operating procedures (SOPs)
- Participating in regulatory audits for the Food and Drug Administration (FDA) and Clinical Laboratory Improvement Amendments (CLIA)
- > Proficiency in the Agile document change control process (DCCP)
- ▶ 15+ years' experience installing, maintaining, and repairing automated diagnostic instrumentation
- ➢ 6 years' experience managing a team of field engineers supporting laboratory diagnostics equipment for the largest reference and hospital laboratories in the U.S.
- > 10+ years' experience as a laboratory technologist, operator, and applications specialist

#### Michael J. Barnhart Chief Science Officer

Mike is president of Plant Science Laboratories LLC (PSL), which has operated since 2003 in Buffalo, New York. He:

- > Is a cGMP, Cannabis cGMP, Organic certified nutritional product processor
- > Holds a New York State hemp processing and growing permit
- Has been a member of the New York State Agriculture and Markets Hemp Committee since its inception
- Has been a member of the New York State Department of Health CBD committee since its inception

PSL operates a custom designed and built drum drying facility for the production of nutritional powder compounds at its Buffalo, New York facility.

PSL has developed unique approaches for manufacturing nutritional powder compounds and is familiar with and has operated drum dryers of all types, as well as spray dryers, vortex dryers, flash dryers, fluid belt dryers, vacuum dryers,



freeze dryers, and cryogenic dryers. PSL's has several large nutritional product industry clients for which it has developed unique nutritional powder products.

# 6. Financial Highlights

#### 6.1 Revenue Model

**SIGMA'S BUSINESS PLAN FOR THE NEXT 24-48 MONTHS** is to focus on establishing itself as one of the best hydroponic, high-productivity, and high-quality growers of cannabis plants, in the market provided by its North Macedonia growing license and GMP certification, supplying the flower and capsule needs of third-party offtakers, with the ability to export to 46 countries worldwide with a combined population of more than 1 billion people.

Sigma therefore expects to generate the bulk of its revenue from a small number of select clients with which it will establish long-term business relations.

**Table 6.1** below describes the estimated 5-year revenue profile for its Phase 1 North Macedonia facility per product<sup>7</sup>.

Macedonia - revenue profile est.											
		2023		2024		2025		2026		2027	
Flower output (lbs)		300		2,000		12,000		12,000		16,000	
Flower price (\$)	\$	1,125	\$	1,170	\$	1,217	\$	1,265	\$	1,316	
(\$'000s, below)											
Flower revenue	\$	337	\$	2,340	\$	14,601	\$	15,185	\$	21,056	
Capsules revenue	\$	-	\$	585	\$	3,650	\$	3,796	\$	5,264	
Total revenue	\$	337	\$	2,925	\$	18,251	\$	18,981	\$	26,320	

#### Table 6.1: SPS North Macedonia revenue profile

#### 6.2 Funding Requirements, Sources and Uses of Funds

**TABLE 6.2 BELOW DETAILS THE ESTIMATED SOURCES AND USES OFFUNDS** for completing Sigma's Phase 1 North Macedonia Facility:

<sup>&</sup>lt;sup>7</sup> All revenue projections, including forward-looking statements, are based on *VK Premium Medical Marijuana* 2020 European Union (EU) domestic and imported prices and price trends (see footnotes on page 14).

SOURCES			
Requested Investment	\$	500,000	
Total Sources		\$	500,000
USES			
Current Obligations			
Payments to vendors, workers		\$	56,500
Rent - Dec 2022 - May 2023		\$	72,000
North Macedonia	Monthly	7	Months
Construction worker & labor payroll	\$ 6,000	\$	42,000
Equipment:			
HVAC system, grow lights,	one time	\$	89,125
growing tables and structures			
Seedlings	one time	\$	5,000
Security	\$ 5,000	\$	35,000
Rent, taxes, insurance	\$ 24,000	\$	168,000
Utilities	\$ 1,000	\$	7,000
Shipping expenses	\$ 625	\$	4,375
Operating expenses	\$ 3,000	\$	21,000
Total Uses	\$ 39,625	\$	500,000

#### Table 6.2 Sigma sources and uses (est.)

## 6.3 Financial Projections

**TABLE 6.3 BELOW SHOWS ESTIMATED INCOME STATEMENT PROJECTIONS** for the Phase 1 North Macedonia growing facility. The projections show performance to EBITDA before (i) interest on debt, (ii) excise and sales taxes, (iii) depreciation, (iv) loan repayments, (v) local, federal, and country level income taxes, and (vi) central corporate expenses.

Macedonia - income statement est.										
(\$'000s)		2023		2024		2025		2026		2027
Revenue <sup>1</sup>	\$	337	\$	2,925	\$	18,251	\$	18,981	\$	26,320
Expenses <sup>2</sup>										
Labor	\$	(142)	\$	(398)	\$	(1,406)	\$	(2,014)	\$	(2,923)
Supplies	\$	(8)	\$	(80)	\$	(480)	\$	(720)	\$	(1,080)
Utilities	\$	(4)	\$	(100)	\$	(344)	\$	(516)	\$	(774)
Shipping & delivery	\$	(3)	\$	(30)	\$	(180)	\$	(240)	\$	(300)
Compliance	\$	(5)	\$	(100)	\$	(120)	\$	(150)	\$	(200)
Rent, insurance, maint.	\$	(150)	\$	(250)	\$	(250)	\$	(250)	\$	(250)
Security	\$	(18)	\$	(96)	\$	(100)	\$	(104)	\$	(108)
Total costs & expenses	\$	(330)	\$	(1,054)	\$	(2,880)	\$	(3,994)	\$	(5,635)
EBITDA	\$	7	\$	1,871	\$	15,371	\$	14,987	\$	20,685
Netee										

<b>Table 6.3:</b>	SPS North N	Macedonia	income statement	(est.)
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Notes:

<sup>1</sup> and <sup>2</sup> See footnotes on page 14



# 6.4 Return on Investment

		-	-				
	4%	Infla	ition				
REVENUE <sup>1</sup>	2023		2024	2025	2026	2027	
Flower Produced (pounds)	 300		2,000	12,000	12,000	16,000	
Flower Price Per Pound	\$ 1,125	\$	1,170	\$ 1,217	\$ 1,265	\$ 1,316	
Flower Revenue	\$ 337,479	\$	2,339,854	\$ 14,600,691	\$ 15,184,719	\$ 21,056,144	
Edibles (capsules)	\$ -	\$	584,964	\$ 3,650,173	\$ 3,796,180	\$ 5,264,036	
Cartridges	\$ -	\$	-	\$ -	\$ -	\$ -	to be added in Phase
Total Revenue	\$ 337,479	\$	2,924,818	\$ 18,250,864	\$ 18,980,899	\$ 26,320,180	
<b>EXPENSES</b> <sup>2</sup>							
Legal & Accounting	\$ 5,000	\$	100,000	\$ 120,000	\$ 150,000	\$ 200,000	
Rent, taxes, insur., maint.	\$ 150,000	\$	250,000	\$ 250,000	\$ 250,000	\$ 250,000	
Pharmacist	\$ 18,000	\$	24,000	\$ 24,960	\$ 25,958	\$ 26,997	
Agronomist	\$ 12,000	\$	18,000	\$ 18,720	\$ 19,469	\$ 20,248	
Security	\$ 18,000	\$	96,000	\$ 99,840	\$ 103,834	\$ 107,987	
General Mgr. (American)	\$ 60,000	\$	120,000	\$ 124,800	\$ 129,792	\$ 134,984	
Asst. GM (Macedonian)	\$ 12,000	\$	36,000	\$ 37,440	\$ 38,938	\$ 40,495	
Labor	\$ 40,000	\$	200,000	\$ 1,200,000	\$ 1,800,000	\$ 2,700,000	
Armored Delivery + Shipping	\$ 3,000	\$	30,000	\$ 180,000	\$ 240,000	\$ 300,000	
Taxes			-	-	•	·	
Utilities	\$ 4,000	\$	100,000	\$ 344,000	\$ 516,000	\$ 774,000	
Supplies	\$ 8,000	\$	80,000	\$ 480,000	720,000	\$ 1,080,000	
Total Expenses	\$ 330,000	\$	1,054,000	\$ 2,879,760	\$ 3,993,990	\$ 5,634,710	



	2023	2024	2025	2026	2027			
EBITDA	\$ 7,479	\$ 1,870,818	\$ 15,371,104	\$ 14,986,908	\$ 20,685,470	=	\$	52,921,780
								5 yr EBIDTA
Sales and excise taxes <sup>3</sup>	\$ -	\$ -	\$ -	\$ -	\$ -			
Depreciation (no deduction)	\$ -	\$ -	\$ -	\$ -	\$ -			
	\$ -	\$ -	\$ -	\$ -	\$ -			
Earnings Before Taxes	\$ 7,479	\$ 1,870,818	\$ 15,371,104	\$ 14,986,908	\$ 20,685,470			
Corporate Income Tax: 10%	\$ -	\$ 187,082	\$ 1,537,110	\$ 1,498,691	\$ 2,068,547			
NET EARNINGS (estimated)	\$ 7,479	\$ 1,683,736	\$ 13,833,994	\$ 13,488,218	\$ 18,616,923	=	\$	47,630,350
Margin	2.2%	57.6%	75.8%	71.1%	70.7%	5	i yr	Net Earnings

#### Footnotes for Tables 6.3 and 6.4:

<sup>1</sup> Flower revenue projections are based on a report by VK Premium, a medical cannabis consulting firm based in Athens, Greece, European Medical Cannabis Market - Trends & Opportunities 2020 (https://www.vkmedicalcannabis.com/european-medical-cannabis-market-trends-and-opportunities-in-2020/). The revenue, EBIDTA, and net earnings projections in this model are based on the average 2019 wholesale price set by the German government for the purchase of domestically grown medical cannabis (rather than the higher price for cannabis imported from North Macedonia). This price is €2.30 per gram (with 453.592 grams per pound and an exchange rate of €1:\$1.07), i.e., \$2.48 per gram -- or \$1,124.93 per pound -- for standard guality cannabis. The 2019 purchase price for imported cannabis was €4 (\$4.36) per gram, or \$1,997.70 per pound. The \$1,124.93 price per pound is what is used in these calculations. VK Premium notes that the Office of Medical Cannabis in the Netherlands "typically sells cannabis flower for between 5.40 and 5.80 euros per gram plus value-added tax (VAT)." which equates to \$2.620.86 to \$2.814.99 per pound. Prices of imported cannabis are projected by VK Premium to increase to €7 (\$7.63) per gram, or \$3,460.97 per pound, based on accelerating demand for medicinal marijuana and the trend toward the legalization of recreational marijuana in several EU countries. This price projection is borne out by a June 2021 report by The European Monitoring Centre for Drugs and Drug Addiction in Lisbon. Portugal (https://www.emcdda.europa.eu/media-library/cannabis-price-and-potency-european-union-updated-june-2021 en), for which the minimum price of herbal cannabis was €5 at the time of the report, with high quality cannabis selling for €13 - €20 per gram. None of these potential higher prices are used in this model. Annual increases are based on a 4% per year increase of the 2019 domestic wholesale price of \$1,124.93 per pound.

Edible (capsule) revenue estimates are based on one-half of projected output at wholesale domestic prices.

<sup>2</sup> Because of North Macedonia's extremely low labor, utility, tax, and operating costs, which average 21% of revenues at full operation, ROI is greatly enhanced. Expense estimates are based on prevailing costs in North Macedonia, including actual costs experienced to date by the project developer.

#### Footnote for Sales and excise taxes, above:

<sup>3</sup> As a wholesale seller, Sigma is not subject to Macedonia's 12% sales tax, which is levied only on retail cannabis sales. There is, as yet, no excise tax on cannabis. only a 10% corporate tax on revenues

Equity Share of Year 1-5 Net Earnings for \$500,000 Investment										
Projected Earnings	Equity	Equity Earnings Years 1-5	Average Annual Earnings							
North Macedonia	10.0%	\$ 4,763,035	\$ 952,607	Average annual return: 1.95 x \$500,000						

#### **Projected Return**



# 7. The Facility

#### 7.1 The North Macedonia Cannabis Growing Facility

**SIGMA'S NORTH MACEDONIA FACILITY** is located on a 12.5 acre leased site, near Skopje (North Macedonia's capital city), with pre-existing and new infrastructure funded by Sigma.

# The Phase 1 facility is comprised of a 6,000 square-foot building with approximately 1,000 square feet of canopy, 1,000 square feet of processing, and a 1,000 square-foot nursery.

The site can accommodate multiple expansions of the current growing facility.

Key to the numbered site overview (below):

- **1.** New building (initial production module);
- **2.** Offices and apartment;
- 3. Phase 2 grow modules;
- **4.** Phase 3 grow modules (existing infrastructure to be demolished/ replaced);
- **5.** Courtyard;
- **6.** Additional space available for further expansion.

#### Figure 7.1: North Macedonia cannabis growing facility

