



22nd Century Group, Inc.

THIRD QUARTER 2020 EARNINGS SUPPLEMENTAL  
NOVEMBER 5, 2020



# CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements concerning our business operations and financial performance and conditions, as well as our plans, objectives, and expectations for our business operations and financial performance and conditions that are subject to risks and uncertainties. All statements other than those of historical fact are forward-looking statements.

These types of statements typically contain words such as “aim,” “anticipate,” “assume,” “believe,” “could,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “potential,” “positioned,” “predict,” “should,” “target,” “will,” “would” and other similar expressions that are predictions of or indicate future events and future trends. Forward-looking statements are based on current expectations, estimates, forecasts, and projections about our business, the industry in which we operate, and our management’s beliefs and assumptions.

These statements are not guarantees of future performance or development and involve known and unknown risks, uncertainties, and other factors that are in some cases beyond our control. All forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those estimated. Please refer to the “Risk Factors” in our Annual Report, Form 10-K filed on March 11, 2020 and in our subsequently filed Quarterly Report, Form 10-Q. We undertake no obligation to publicly update or revise any forward-looking statement as a result of new information, future events, or otherwise, except as required by law.

# Q3 2020 BUSINESS HIGHLIGHTS

- Remain focused on primary mission of reducing the harm caused by smoking
- Intensified proactive efforts to secure Modified Risk Tobacco Product (MRTTP) authorization from the U.S. Food and Drug Administration (FDA) for VLN<sup>®</sup>
- Plans in place to commercialize VLN<sup>®</sup> in the U.S. 90 days after receiving MRTTP designation
- Commercial plans include a rollout through large, well-recognized retail chains in the U.S. and a marketing campaign to introduce adult smokers to the world's lowest nicotine content cigarette
- Refocused hemp/cannabis strategy to prioritize the upstream value chain segments of plant/seed biotechnology, breeding, cultivation, and purification of disruptive, proprietary plant lines
- Identified a third plant-based franchise; securing valuable and necessary intellectual property and pursuing strategic partnerships to support the development of this franchise
- Strong operating results for the third quarter, driven by year-over-year revenue growth and continued gross margin improvement; healthy balance sheet



# THIRD QUARTER 2020 FINANCIAL HIGHLIGHTS

**\$7.3M**

Net sales revenue  
+13% YoY



**530BPS**

Improvement in gross  
profit margin<sup>1</sup> YoY



**\$26.8M**

In cash, cash equivalents,  
and short-term  
investment securities



**\$3.6M**

Improvement in  
operating loss YoY



**26%**

Improvement in  
Adjusted EBITDA<sup>2</sup> YoY



1. Gross profit margin is calculated by dividing net sales revenue by gross profit.

2. Adjusted EBITDA, which the Company defines as earnings before interest, taxes, depreciation and amortization, as adjusted by the Company for certain non-cash and non-operating expenses, as well as certain one-time expenses, is a financial measure not prepared in accordance with generally accepted accounting principles ("GAAP"). In order to calculate Adjusted EBITDA, the Company adjusts the net (loss) income for certain non-cash and non-operating income and expense items in order to measure the Company's operating performance. The Company believes that Adjusted EBITDA is an important measure that supplements discussions and analysis of its operations and enhances an understanding of its operating performance. While management considers Adjusted EBITDA to be important, it should be considered in addition to, but not as a substitute for or superior to, other measures of financial performance prepared in accordance with GAAP, such as operating loss, net (loss) income and cash flows from operations. Adjusted EBITDA is susceptible to varying calculations and the Company's measurement of Adjusted EBITDA may not be comparable to those of other companies.

# YEAR-TO-DATE 2020 FINANCIAL HIGHLIGHTS



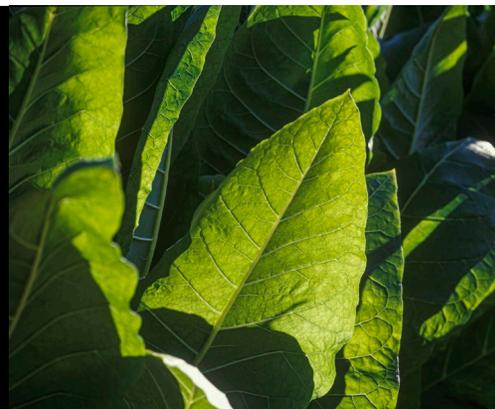
**\$20.8M**

Net sales revenue  
+12% YoY



**520BPS**

Improvement in gross  
profit margin<sup>1</sup> YoY



**23%**

Improvement in  
Adjusted EBITDA<sup>2</sup> YoY



**\$7.1M**

Improvement in net  
loss YoY



**\$5.1M**

Improvement in  
operating loss YoY



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# TOBACCO FRANCHISE UPDATE



- Securing MRTP authorization from the FDA for VLN® is our number one priority; intensified proactive efforts to secure MRTP designation
- Launch plans include national roll-out with large, well-recognized retail chains in the U.S. and a marketing campaign; received extremely positive feedback on VLN® from many potential partners in the independent, regional, and national retail trade; finalizing distribution plans and agreements
- Commercial product launch to commence within 90 days of receiving MRTP authorization
- Continue to support and advance the FDA's plan to require all cigarettes sold in the U.S. to be made "minimally or non-addictive", a level already achieved by VLN® cigarettes
- Successfully applied next generation non-GMO methodology of reducing nicotine levels in tobacco plants to several varieties of tobacco; developing non-GMO reduced nicotine content cigarette prototype
- The FDA's authorization of VLN® will open multiple licensing opportunities in the U.S. and globally; plan to execute on commercial opportunities for VLN® once MRTP authorization is secured
- Granted highly valuable U.S. patent; breakthrough technology will enable rapid introduction of very low nicotine content traits into all varieties of tobacco used in the production of cigarettes and other tobacco products

# VLN<sup>®</sup> HAS MASSIVE GLOBAL MARKET OPPORTUNITY

## SMOKERS ARE ACTIVELY SEEKING ALTERNATIVES TO ADDICTIVE COMBUSTIBLE CIGARETTES

**1B**

global adult smokers <sup>2</sup>

**34M**

U.S. adult smokers <sup>3</sup>

**2/3**

of adult smokers want to quit <sup>4</sup>

**1/2**

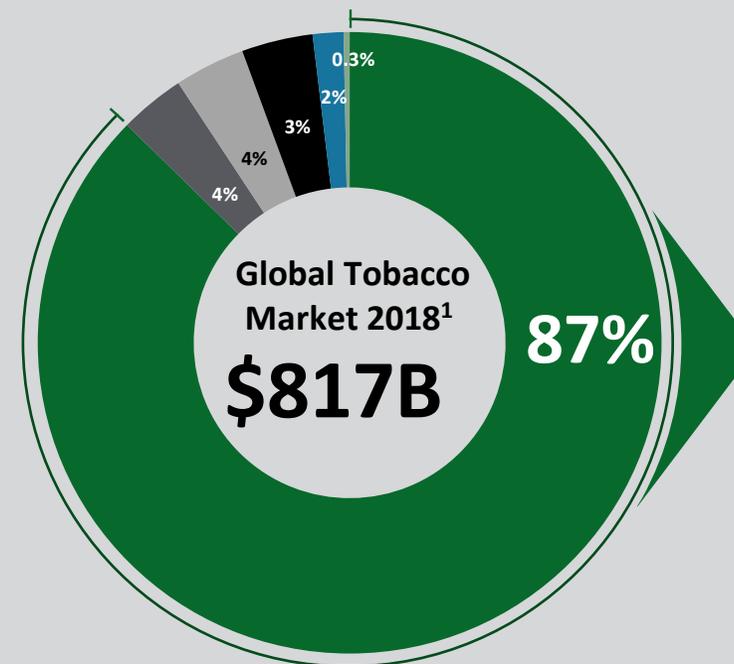
of adult smokers made an attempt to quit in the past year <sup>4</sup>

**<10%**

of adult smokers successfully quit in 2018 <sup>4</sup>

**95%**

of smokers who do not participate in a smoking cessation program fail<sup>5</sup>



We are meeting consumers where they already are

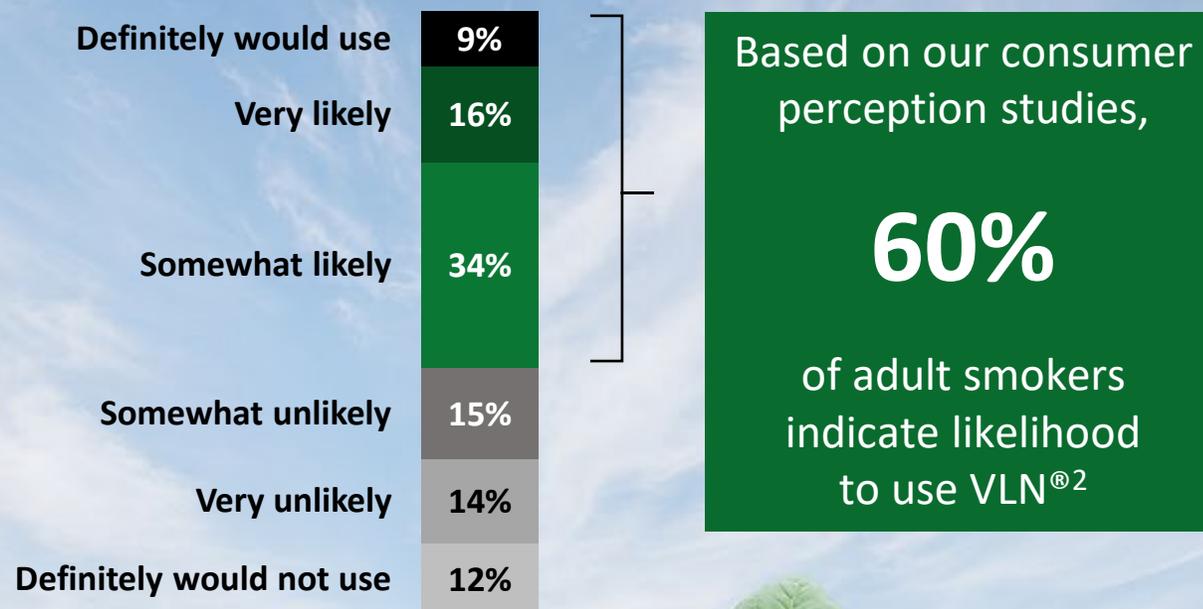
**\$714B<sup>1</sup>**

Combustible Cigarette Market



1. Foundation for a Smoke Free World; [https://www.smokefreeworld.org/wp-content/uploads/2019/08/FSFW\\_Global-Trends-in-Nicotine\\_6.22.2020.pdf](https://www.smokefreeworld.org/wp-content/uploads/2019/08/FSFW_Global-Trends-in-Nicotine_6.22.2020.pdf)  
 2. World Health Organization; <https://www.who.int/gho/tobacco/use/en/#:~:text=In%202015%2C%20over%201.1%20billion,Region%20and%20the%20African%20Region.>  
 3. Centers for Disease Control and Prevention; [https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/adult\\_data/cig\\_smoking/index.htm](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm)  
 4. Centers for Disease Control and Prevention; [https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/cessation/smoking-cessation-fast-facts/index.html](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/smoking-cessation-fast-facts/index.html)  
 5. U.S. News; <https://health.usnews.com/health-conditions/allergy-asthma-respiratory/smoking-cessation/overview>

# CONSUMERS EXPRESS HIGH INTEREST IN VLN<sup>®</sup>



**IN A 2019 U.S. CENTER FOR DISEASE CONTROL AND PREVENTION (CDC) SURVEY, 80% OF U.S. SMOKERS FAVOR LOWERING NICOTINE LEVELS IN CIGARETTES<sup>1</sup>**

# FEATURES AND BENEFITS OF VLN<sup>®</sup>

## Proprietary Technology in Reduced Nicotine Content

- VLN<sup>®</sup> cigarettes contain 95% less nicotine content than conventional cigarette alternatives
- 22nd Century owns or controls over 200 issued and pending patents and other intellectual property related to nicotine biosynthesis in tobacco plants

## Science-Backed Research from Clinical Trials

- Since 2011, 22nd Century's reduced nicotine content tobacco has been used in more than 50 independent scientific clinical studies conducted by universities and institutions
- These studies have been largely funded by U.S. government agencies and are estimated to have cost over \$100 million

## Discernable Adult Smoker Benefits<sup>1,2</sup>

- ✓ Reduce nicotine exposure and dependence
- ✓ Smoke fewer cigarettes per day
- ✓ Experience reduced withdrawal symptoms
- ✓ Minimal or no compensatory smoking
- ✓ Increase number of smoke-free days
- ✓ Double quit attempts
- ✓ No increase in adverse effects in persons with mental health disorders

**22ND CENTURY SUPPLIES A UNIQUE 95% REDUCED NICOTINE CONTENT COMBUSTIBLE CIGARETTE ALTERNATIVE THAT IS UNLIKE ANY TOBACCO PRODUCT AVAILABLE IN THE MARKET TODAY**

1. Sources: Eric C. Donny, Ph.D., Rachel L. Denlinger, B.S., et al. "Randomized Trial of Reduced-Nicotine Standards for Cigarettes." Oct. 2015.  
2. Dorothy K. Hatsukami, PhD; Xianghua Luo, PhD, et al., "Effect of Immediate vs Gradual Reduction in Nicotine Content of Cigarettes on Biomarkers of Smoke Exposure." Sept. 2018.  
3. Dorothy K. Hatsukami, Michael Kotlyar, et al., "Reduced nicotine content cigarettes: effects on toxicant exposure, dependence and cessation." Feb. 2010.  
4. Hull, LC. "The Science to Inform a Potential Tobacco Product Standard for the Level of Nicotine in Combusted Cigarettes" Oct. 2018

# OUR MANUFACTURING CAPABILITIES

22nd Century is positioned to manufacture VLN® cigarettes in commercial quantities through existing facility footprint.



62,000 sq. ft. manufacturing facility in NC



Producing reduced nicotine content research cigarettes since 2011



Manufacturing capacity equal to approximately 1% of the U.S. tobacco market; **ability to increase capacity to 2-3% of the market** with minimal investments in additional equipment that is readily available



FDA inspected and cleared as part of the Premarket Tobacco Application (PMTA) process



Subsequent Participating Manufacturer of the Master Settlement Agreement

# SUBSTANTIAL WHITESPACE IN TOBACCO

Decades of research supported by modern technologies provide unique opportunities to accelerate development capabilities in tobacco across multiple end use market applications.

## Tobacco for Multiple End Use Markets

- Structure tobacco plant lines to **produce antibodies**.
- Modify tobacco **plant proteins** (e.g. collagen) with **applications for disease treatment**.
- Produce **nutrient compounds** (e.g. spearmint) with high value in **fragrance and flavor industries**.

## Enhancing Nicotine Production

- Produce tobacco with substantially **more nicotine** per plant enabling **higher extraction yields** for alternative and medicinal nicotine products.
- **Enhance and improve tobacco flavor profile** including taste and aroma through tobacco compound(s) modification.

## Developing Non-GMO Technologies

- Advanced non-GMO plant lines are in **product development**.
- Non-GMO tobacco lines **closely mimic the sensory characteristics of conventional tobacco varieties**.
- Non-GMO products enable global opportunities.

**22ND CENTURY POSSESSES THE KNOW-HOW AND INTELLECTUAL PROPERTY TO CAPITALIZE ON ADDITIONAL, UNTAPPED TOBACCO STRATEGIES AND PARTNERSHIP OPPORTUNITIES BEYOND VLN®.**

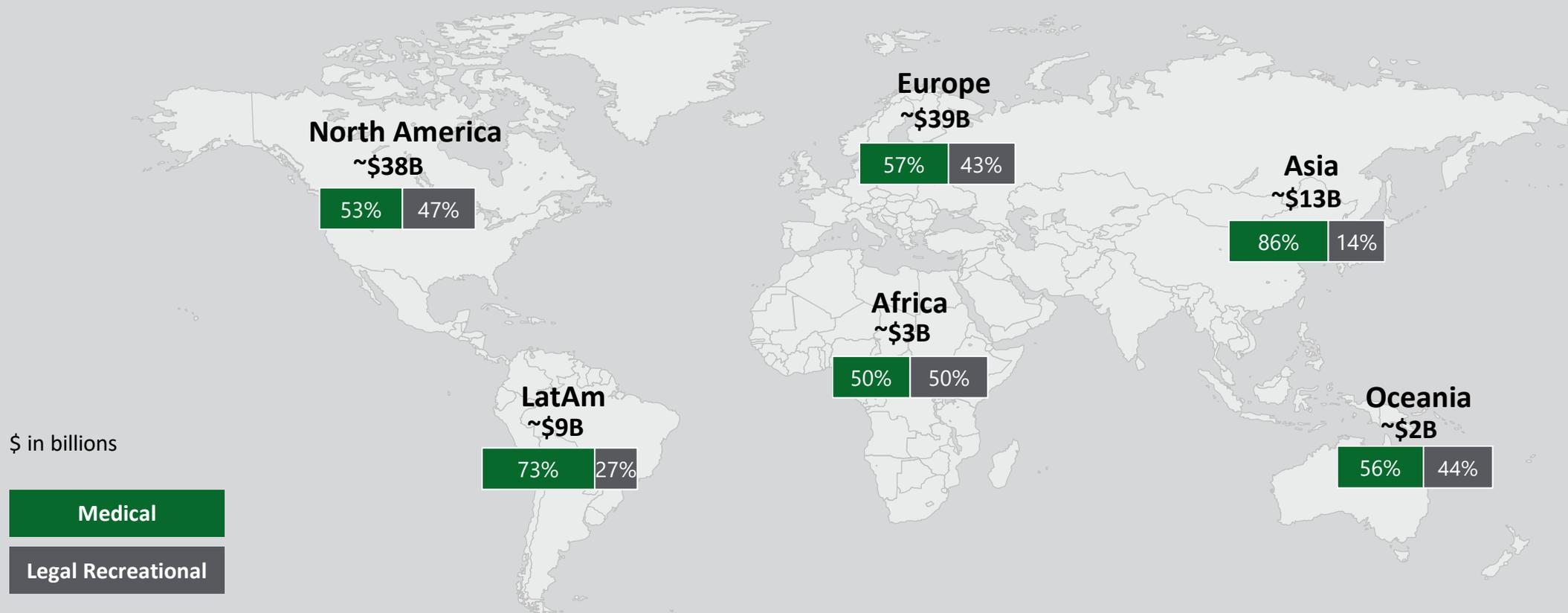
# HEMP/CANNABIS STRATEGY & UPDATE



- Refocused hemp/cannabis strategy to target upstream segments of the cannabinoid value chain and related intellectual property in areas of plant biotechnology research including, gene modification and engineering, modern plant breeding and development, and extraction
- Renewed emphasis on intellectual property and high-value genetic traits, a shift away from cannabidiol (CBD) and hemp-based consumer products in the already saturated U.S. market
- Target and develop hemp/cannabis lines with select agronomic traits including lines with stable, ultra-high tetrahydrocannabinol (THC) levels, lines with higher levels of rare cannabinoids, and lines with ultra-low terpene levels
- Continue to concentrate hemp/cannabis efforts on initiatives related to current and exclusive KeyGene collaboration and on the existing worldwide license agreement with Anandia Laboratories
- Built proprietary bioinformatics platform; well positioned to monetize vast knowledge foundation and intellectual property developed over the past year

# THE CANNABIS INDUSTRY IS GLOBAL AND RAPIDLY GROWING

There is massive opportunity to capitalize on supplying ingredient solutions across developing cannabis end markets.



**THE GLOBAL CANNABIS MARKET IS PROJECTED TO BE A \$100+ BILLION INDUSTRY BY 2024<sup>1</sup>.**

1. Prohibition Partners; "The Global Cannabis Report"

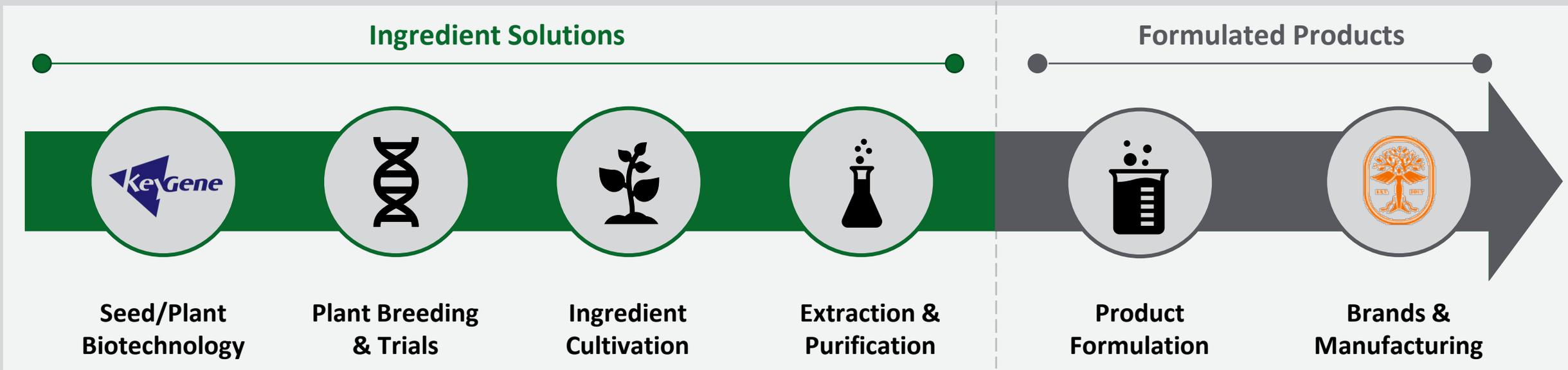
# OUR DIFFERENTIATED APPROACH TO HEMP/CANNABIS

We are selectively pursuing segments of the hemp/cannabis market that are currently underserved.

	<b>Agronomic Characteristics</b>	<b>Cannabinoid Profile</b>	<b>End User Experience</b>
<b>Commoditized Industry Participants</b>	<ul style="list-style-type: none"> <li>Total cannabinoid yield is typically under 20% in cannabis plants, not capturing the potentiality yield in the plant<sup>1</sup></li> <li>Inconsistent composition and stability of cannabinoids in plants</li> <li>Cannabis historically bred for drier, northern latitudes</li> </ul>	<ul style="list-style-type: none"> <li>THC and CBD plant lines typically yield under 20% and 10% cannabinoids, respectively</li> <li>Difficult to efficiently extract rare cannabinoids</li> <li>Little customization available</li> </ul>	<ul style="list-style-type: none"> <li>Distinct focus on THC and CBD</li> <li>Products are largely commoditized and undifferentiated in the market</li> <li>Off-taste and odor present difficulties in product formulation</li> </ul>
<b>The 22nd Century Advantage</b>	<ul style="list-style-type: none"> <li>✓ Increasing cannabinoid yields to 25-35%</li> <li>✓ Increasing cannabinoid production throughout plant (including leaves)</li> <li>✓ Achieving predictable levels of cannabinoids (stable genetics)</li> <li>✓ Introducing auto-flowering, disease resistance, and drought resistance to new lines</li> </ul>	<ul style="list-style-type: none"> <li>✓ Developing lines with significantly higher THC and CBD levels</li> <li>✓ Developing lines with minor and novel cannabinoid profiles</li> <li>✓ Customizing “entourage effect” through genetic mapping</li> </ul>	<ul style="list-style-type: none"> <li>✓ Increasing levels of THC, CBD and minor cannabinoids in the plant</li> <li>✓ Modulating terpene levels to improve sensory characteristics</li> </ul>

**22ND CENTURY’S SCIENTIFIC AND SOLUTIONS-ORIENTED APPROACH IS CREATING VALUABLE NEW PLANTS AND IP IN THE HEMP/CANNABIS SPACE.**

# TARGETING THE UPSTREAM SEGMENT OF THE HEMP/CANNABIS VALUE CHAIN



- The U.S. formulated CBD and hemp-based consumer products market is already saturated.
- 22nd Century will differentiate itself by focusing on the upstream segment of the hemp/cannabis value chain. This will provide us with a competitive advantage.
- We will build upon our core strengths in plant science and seek to form operational partnerships that will enable us to offer comprehensive commercial breeding, cultivation, and extract purification services utilizing our propriety hemp/cannabis plants in development.
- 22nd Century will focus on delivery of valuable, commercial plant lines for the life science, consumer products, and pharmaceutical markets.

# DRIVING INNOVATION THROUGH PARTNERSHIP WITH KEYGENE



A legacy of open innovation with crop improvement through molecular breeding

Experience with more than 30 food and horticultural crops

Developed 40% of the vegetable crops sold in Europe and Japan

Developed tobacco molecular breeding programs for BAT, Altria and PMI

- 1 Knowledge foundation development**
- 2 Advanced tool development**
- 3 Accelerated genetics improvement**
- 4 Line characterization and development acceleration**

## Technical Attributes

- Create a proprietary and industry-leading high-resolution “molecular genetic map” of the hemp/cannabis plant genome
- Analyze and test genomic sequences and identify shared genetic markers across the hemp/cannabis spectrum
- Utilize proprietary rapid-cycle breeding programs to create new plant lines in half the time

## Commercial Capabilities

- Enhance metabolic variation of hemp/cannabis plant lines with distinctive agronomic traits
- Breed stable, proprietary hemp/cannabis plant lines ready for commercial-scale growing
- Develop hemp/cannabis plant lines optimized for medicinal or therapeutic applications

**ACCELERATING PARTNERSHIP IN PURSUIT OF NEXT GENERATION GENETIC DATABASE AND ACCELERATED DEVELOPMENT OF UNIQUE AND VALUABLE HEMP/CANNABIS, TOBACCO, AND OTHER PLANTS**

# STRATEGIC SPOTLIGHT: PRIORITIES & OBJECTIVES

01

Secure MRTP Authorization from the FDA and execute on commercial product launch and licensing initiatives within 90 days of receiving MRTP designation

02

Support and advance the FDA's plan to limit nicotine content in all combustible cigarettes; plan to make very low nicotine content tobacco available to every major cigarette manufacturer in the U.S.

03

Refocus hemp/cannabis strategy to target upstream segments of the cannabinoid value chain; concentrate efforts on initiatives related to exclusive partnership with KeyGene

04

Develop a third franchise by securing valuable intellectual property and pursuing strategic partnerships; turn attention to this franchise after execution of tobacco and hemp/cannabis strategies



# FINANCIAL DETAILS



# FINANCIAL SNAPSHOT

*\$ in millions*

## Select Financials

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Net sales revenue	\$ 7.3	\$ 6.5	\$ 20.8	\$ 18.5
Operating loss	\$ (4.0)	\$ (7.6)	\$ (12.9)	\$ (18.0)
Net loss	\$ (4.2)	\$ (10.2)	\$ (13.3)	\$ (20.4)
Adjusted EBITDA	\$ (3.4)	\$ (4.6)	\$ (10.2)	\$ (13.4)
Net loss per common share - basic and diluted	\$ (0.03)	\$ (0.08)	\$ (0.10)	\$ (0.16)

## Summary Balance Sheet Items

	Year Ended	Year Ended
	September 30, 2020	December 31, 2019
Cash and cash equivalents <sup>2</sup>	\$ 26.8	\$ 39.0
Total assets	\$ 57.4	\$ 69.0
Total liabilities	\$ 7.3	\$ 6.9
Total shareholders' equity	\$ 50.0	\$ 62.1

# ADJUSTED EBITDA DEFINITION

Adjusted EBITDA, which the Company defines as earnings before interest, taxes, depreciation and amortization, as adjusted by the Company for certain non-cash and non-operating expenses, as well as certain one-time expenses, is a financial measure not prepared in accordance with generally accepted accounting principles (“GAAP”). In order to calculate Adjusted EBITDA, the Company adjusts the net (loss) income for certain non-cash and non-operating income and expense items in order to measure the Company’s operating performance. The Company believes that Adjusted EBITDA is an important measure that supplements discussions and analysis of its operations and enhances an understanding of its operating performance. While management considers Adjusted EBITDA to be important, it should be considered in addition to, but not as a substitute for or superior to, other measures of financial performance prepared in accordance with GAAP, such as operating loss, net (loss) income and cash flows from operations. Adjusted EBITDA is susceptible to varying calculations and the Company’s measurement of Adjusted EBITDA may not be comparable to those of other companies.

# ADJUSTED EBITDA

	Quarter Ended September 30,			Year-to-date Ended September 30,		
	Dollar Amounts in Thousand (\$000's)			Dollar Amounts in Thousand (\$000's)		
	2020	2019	% Change fav / (unfav) <sup>1</sup>	2020	2019	% Change fav / (unfav) <sup>1</sup>
<b>Net loss</b>	\$ (4,221)	\$ (10,245)	\$ 6,024	\$ (13,307)	\$ (20,360)	\$ 7,053
Adjustments:						
Impairment of intangible assets	\$ -	\$ 1,142	\$ (1,142)	\$ 146	\$ 1,142	\$ (996)
Impairment of Panacea warrant	\$ -	\$ -	\$ -	\$ 1,062	\$ -	\$ 1,062
Amortization and depreciation	\$ 323	\$ 390	\$ (67)	\$ 997	\$ 1,111	\$ (114)
Unrealized loss (gain) on investment	\$ 429	\$ 2,959	\$ (2,530)	\$ 562	\$ 1,410	\$ (848)
Realized (gain) loss on short-term investment securities	\$ -	\$ (90)	\$ 90	\$ -	\$ (146)	\$ 146
Litigation Settlement	\$ -	\$ -	\$ -	\$ -	\$ 1,891	\$ (1,891)
Gain on the sale of machinery and equipment	\$ (1)	\$ -	\$ (1)	\$ (1)	\$ (87)	\$ 86
Accretion of non cash interest expense	\$ 4	\$ 12	\$ (8)	\$ 34	\$ 33	\$ 1
Equity-based employee compensation expense	\$ 306	\$ 1,440	\$ (1,134)	\$ 1,162	\$ 2,406	\$ (1,244)
Executive and board search fees	\$ -	\$ -	\$ -	\$ 430	\$ -	\$ 430
Interest Income	\$ (270)	\$ (242)	\$ (28)	\$ (1,344)	\$ (757)	\$ (587)
Interest Expense	\$ 19	\$ -	\$ 19	\$ 19	\$ 3	\$ 16
<b>Adjusted EBITDA</b>	\$ (3,412)	\$ (4,634)	\$ 1,222	\$ (10,240)	\$ (13,354)	\$ 3,114

<sup>1</sup>Fav = Favorable variance, which increases to Adjusted EBITDA; Unfav = unfavorable variance, which reduces Adjusted EBITDA

# CONTACT INFORMATION



## INVESTOR RELATIONS & MEDIA CONTACT

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