

**13th ANNUAL LD MICRO MAIN EVENT
DECEMBER 14, 2020**



CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

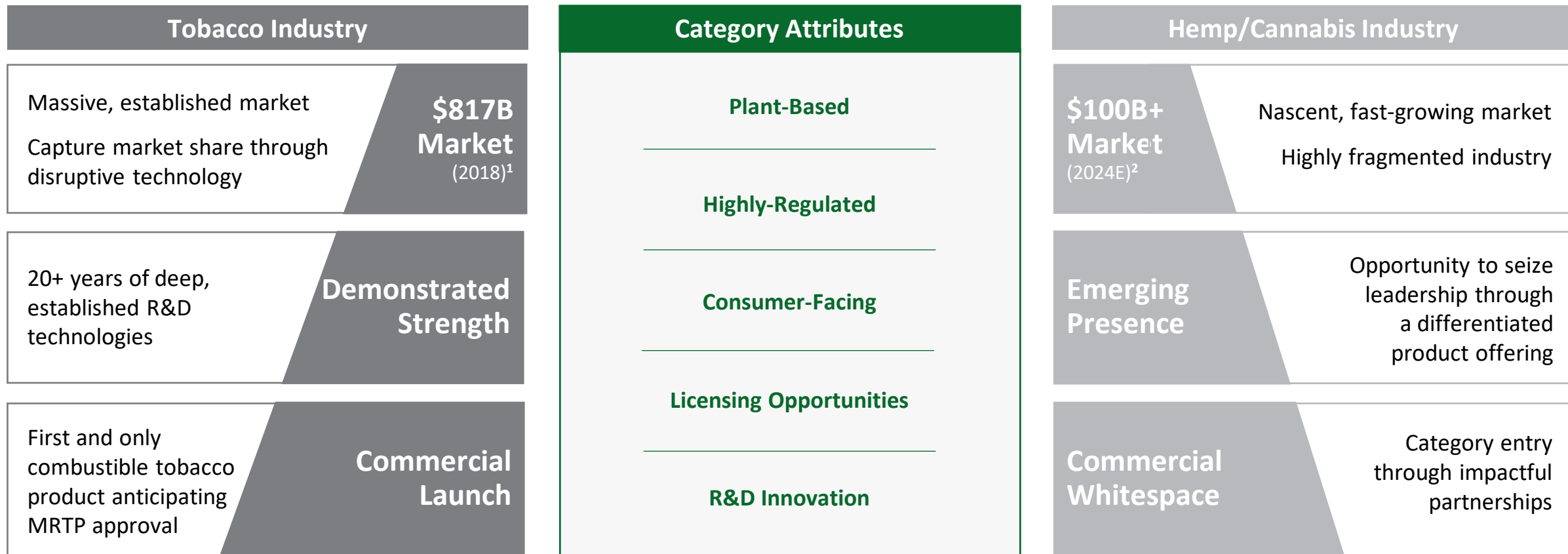
This presentation contains forward-looking statements concerning our business operations and financial performance and conditions, as well as our plans, objectives, and expectations for our business operations and financial performance and conditions that are subject to risks and uncertainties. All statements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

WE ARE A PLANT-BASED BIOTECHNOLOGY COMPANY THAT COMPETES IN INDUSTRIES RIPE FOR DISRUPTION

22nd Century's core competencies in plant-based research provide solutions across highly-regulated end markets.



22ND CENTURY HAS FIRST MOVER ADVANTAGE IN REDUCED NICOTINE CONTENT TOBACCO TECHNOLOGY. ITS FAMILY OF PATENTS AND KNOW-HOW IN PLANT-BASED BIOTECHNOLOGY APPLICATIONS ENABLES ENTRY INTO ADJACENT MARKETS.

1) Foundation for a Smoke Free World; https://www.smokefreeworld.org/wp-content/uploads/2019/08/ESFW_Global-Trends-in-Nicotine_6.22.2020.pdf
 2) Prohibition Partners; "The Global Cannabis Report"

TOBACCO IS A MASSIVE GLOBAL MARKET OPPORTUNITY

Smokers are actively seeking alternatives to addictive combustible cigarettes; consumers express high interest in our proprietary reduced nicotine content cigarettes, VLN®

1B

global adult smokers ²

34M

U.S. adult smokers ³

2/3

of adult smokers want to quit ⁴

1/2

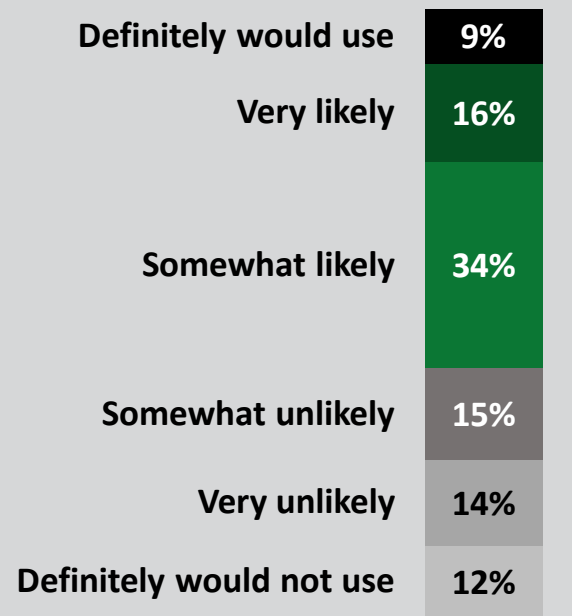
of adult smokers made an attempt to quit in the past year ⁴

<10%

of adult smokers successfully quit in 2018 ⁴

95%

of smokers who do not participate in a smoking cessation program fail ⁵



Based on our consumer perception studies,

60%

of adult smokers indicate likelihood to use VLN®⁶

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
 2. World Health Organization; <https://www.who.int/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
 4. Centers for Disease Control and Prevention; 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>
 6. 22nd Century Group Perception Study (n = 3,018)

OUR PROPRIETARY REDUCED NICOTINE CONTENT CIGARETTES CONTAIN 95% LESS NICOTINE THAN CONVENTIONAL CIGARETTES

Discernable Adult Smoker Benefits of VLN®

- 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

VLN® Path to Commercialization

- Obtained permission to sell reduced nicotine content cigarettes; secured Premarket Tobacco Product Application (PMTA) from the FDA in December 2019
- Currently seeking Modified Risk Tobacco Product (MRTP) designation from the FDA; will enable 22nd Century to communicate the features of VLN® to adult smokers
- Securing MRTP designation for VLN® will open multiple licensing opportunities in the U.S. and globally

VLN® WILL BE THE ONLY MRTP PRODUCT NOT DEVELOPED TO CREATE OR SUSTAIN ADDICTION AND THE ONLY CIGARETTE CAPABLE OF MEETING THE FDA'S PROPOSED REDUCED NICOTINE PRODUCT STANDARD

OUR DIFFERENTIATED APPROACH TO HEMP/CANNABIS

We are refocusing our strategy on plant science with the goal of creating novel IP, plants and extracts with unique and differentiated cannabinoid and terpene profiles.

	Agronomic Characteristics	Cannabinoid Profile	End User Experience
Commoditized Industry Participants	<ul style="list-style-type: none"> Total cannabinoid yield is typically under 20% in cannabis plants¹ Inconsistent composition and stability of cannabinoids in plants Cannabis historically bred for drier, northern latitudes 	<ul style="list-style-type: none"> THC and CBD plant lines typically yield under 20% and 10% cannabinoids, respectively Difficult to efficiently extract rare cannabinoids Little customization available 	<ul style="list-style-type: none"> Distinct focus on THC and CBD Products are largely commoditized and undifferentiated in the market Off-taste and odor present difficulties in product formulation
The 22nd Century Advantage	<ul style="list-style-type: none"> ✓ Increasing cannabinoid yields to 25-35% ✓ Increasing cannabinoid production throughout plant (including leaves) ✓ Achieving predictable levels of cannabinoids (stable genetics) ✓ Introducing auto-flowering, disease resistance, and drought resistance to new lines 	<ul style="list-style-type: none"> ✓ Developing lines with significantly higher THC and CBD levels ✓ Developing lines with minor and novel cannabinoid profiles ✓ Customizing “entourage effect” through genetic mapping 	<ul style="list-style-type: none"> ✓ Increasing levels of THC, CBD and minor cannabinoids in the plant ✓ Modulating terpene levels to improve sensory characteristics

22ND CENTURY WILL FOCUS ON DELIVERY OF VALUABLE, COMMERCIAL PLANT LINES FOR THE LIFE SCIENCE, CONSUMER PRODUCTS, AND PHARMACEUTICAL MARKETS.

STRATEGIC SPOTLIGHT: PRIORITIES & OBJECTIVES



01

Secure **MRTP Authorization** for our proprietary reduced nicotine content cigarettes 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 on plant science 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

CONTACT INFORMATION



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