

2020 Annual Stockholders Meeting

May 1, 2020



22nd Century Group, Inc.

Cautionary Statement

Forward-Looking Statements

This presentation contains forward-looking statements concerning our business, operations and financial performance and condition as well as our plans, objectives and expectations for our business operations and financial performance and condition that are subject to risks and uncertainties. All statements other than statements of historical fact included in this presentation are forward-looking statements. You can identify these statements by 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. These forward-looking statements are based on current expectations, estimates, forecasts and projections about our business and 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 and others that could cause actual results to differ materially from those contained in our forward-looking statements, please refer to "Risk Factors" in our Annual Report on Form 10-K filed on March 11, 2020. 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 otherwise required by law.



22nd Century Group is a leading plant biotechnology company focused on reducing nicotine in tobacco and creating new hemp/cannabis plants

Management Team



Michael Zercher

President & Chief Operating Officer

20+ years in the tobacco industry in marketing, sales, operations and business development in the United States, Europe and Asia



Juan Sanchez Tamburrino

VP of Research and Development

20+ years in plant biotechnology R&D and innovation; served as head of the Plant Biotechnology Division of British American Tobacco in Cambridge, England



Andrea Jentsch

Chief Financial Officer

20+ years at HSBC Bank USA focused on managing assets, liabilities, and capital; cost accounting and financial system design in multi-cultural international settings



John T. Brodfuehrer

VP of Strategy

Former CFO of 22nd Century Group; Former CFO of Latina Boulevard Foods, LLC; VP of Retail Accounting for United Refining Company and 24+ years with NOCO Energy Corp as CFO, VP and member of Board of Directors



John D. Pritchard

VP of Regulatory Science

Former Head of Regulatory Science for Imperial Brands and former Toxicologist with both the U.K. Health Protection Agency and Charles River



Lisa Parks

VP of Acquisitions

Served as Managing Director at Envest Capital Partners and Director of Corporate Finance at Landmark Media Enterprises

Company Strengths



Broad portfolio of intellectual property related to tobacco and hemp/cannabis plants

Expertise in tobacco and consumer packaged goods

Extensive capabilities in plant development and genetics for tobacco and hemp/cannabis varieties

Strong balance sheet and publicly-listed on the NYSE American

Strong regulatory affairs capabilities

VLNC cigarette PMTA authorized by FDA and MRTPA at advanced stage of FDA review

Two Industries Ripe for Disruption



Tobacco

Mature industry dominated by a few major players

Under fire from public health, regulators and legislators

34 million adult smokers in the U.S.¹ and 1 billion worldwide²

Nearly 70% of U.S. adult smokers want to quit and more than 50% try and fail each year³

Adult smokers, public health and regulators are looking for options to reduce smoking and nicotine consumption

Hemp/Cannabis

Emerging and rapidly-growing

Highly fragmented with no clear leaders

Lack of trusted brands

Little brand differentiation

Low-quality plant genetics

Opportunity to lead through science-driven differentiation and build consumer trust

Plant-based
Highly-regulated
Consumer-facing

22nd Century is well positioned to create value in both tobacco and hemp/cannabis by leveraging our strengths in plant genetics, intellectual property, regulatory affairs and consumer packaged goods

Strategic Priorities



01

Successfully commercialize a very low nicotine content cigarette with MRTP authorization and help ensure the adoption of an FDA low-nicotine standard

02

Build a hemp/cannabis business, with both internal investments and external relationships, focused on plant biotechnology and other high-value areas

03

Optimize spending and allocate resources for maximum efficiency and effectiveness



Tobacco Strategy



Successfully commercialize a very low nicotine content cigarette with MRTP authorization and help ensure the adoption of an FDA reduced nicotine product standard for combustible cigarettes

Develop and commercialize GMO and non-GMO varieties of 95% reduced nicotine tobacco

Moonlight®

FDA has authorized 22nd Century to sell its very low nicotine content tobacco cigarettes in the U.S. under the brand name Moonlight®

VLN®

Awaiting reduce exposure marketing order from FDA to market cigarettes in the U.S. under the brand name VLN® with pack and advertising claims stating that the product contains 95% less nicotine vs. conventional tobacco cigarettes, as well as related claims regarding nicotine exposure

GO-TO-MARKET WITH REDUCED NICOTINE CONTENT TOBACCO CIGARETTES

Tobacco Product Portfolio

SPECTRUM®

- Developed in collaboration with the National Institute on Drug Abuse (NIDA), the National Institutes of Health (NIH), FDA, Centers for Disease Control (CDC) and the National Cancer Institute (NCI)
- More than 28 million SPECTRUM® research cigarettes, including reduced nicotine versions, have been provided for dozens of independent scientific clinical studies funded by various agencies of the U.S. federal government
- Research only; not sold commercially



Moonlight®

- Made with same proprietary tobacco as SPECTRUM® 0.5mg reduced nicotine research cigarettes
- Submitted PMTA to FDA and received authorization in December 2019 for commercial sale in the U.S.
- 22nd Century is currently completing state and federal regulatory filings necessary to bring Moonlight® to market in the U.S.



VLN®

- Made with same proprietary tobacco as SPECTRUM® 0.5mg nicotine research cigarettes
- All labeling and marketing materials expected to contain the reduced exposure claim: "95% LESS NICOTINE"
- First combustible tobacco product to request MRTP claim from FDA
- 22nd Century's MRTP application currently under review by FDA



22nd Century's reduced nicotine content tobacco cigarettes contain 95% less nicotine than conventional cigarette tobacco and are made in the same way as conventional cigarettes, using materials, ingredients and processes well established in the cigarette industry

Features and Benefits of Very Low Nicotine Content (VLNC) Cigarettes



Reduced Nicotine Content

- Nicotine is a highly addictive substance found naturally in tobacco plants
- Our products are made from proprietary tobacco that grows with very low levels of nicotine – up to 97% less than conventional tobacco
- VLNC cigarettes contain 0.2 to 0.7 mg of nicotine per cigarette – compared to 10 to 14 mg per cigarette in most conventional products
- Looks, tastes and smokes like a conventional cigarette

Adult Smoker Benefits

- Smoke 50% fewer cigarettes per day, on average
- Show reduced levels of biomarkers of nicotine and other toxicants
- Show reduced nicotine dependence, with minimal evidence of nicotine withdrawal or compensatory smoking
- More days where they smoke no cigarettes (cigarette-free days)
- Increase their attempts to quit smoking

Backed by Clinical Science

- Used in dozens of independent scientific clinical studies conducted by researchers at universities, institutes and several agencies of the U.S. government
- Studies support unequivocally the benefits for smokers and public health
- Studies support 22nd Century's FDA applications as well as FDA's proposed plan to reduce nicotine levels in all combustible cigarettes

Hemp/Cannabis Strategy



Build a hemp/cannabis business, with both internal investments and external relationships, focused on plant biotechnology and other high-value areas

Develop new, proprietary plant varieties with valuable cannabinoid profiles and agronomic traits

Develop new technologies to facilitate production of distinctive plant lines with desirable traits

Develop high-resolution genomic database to enable characterization of cannabis lines

Conduct greenhouse and field trials to certify plant genetics

Develop commercial partnerships through investments and other strategic relationships

Develop strategic partnerships focused on high-value segments of value chain to generate profitable revenue in the legal, hemp-derived cannabinoid products space

Commercialize our new, proprietary hemp/cannabis plants through these strategic partnerships

**ESTABLISH A LEADERSHIP POSITION IN THE LEGAL HEMP/CANNABIS SPACE
BUILT ON SCIENCE-DRIVEN DIFFERENTIATION & CONSUMER TRUST**

Hemp/Cannabis Technology & Partnerships



2014

September

Partnership with Anandia Laboratories

Equity investment, patent licenses and research agreement

Exclusive sublicense in U.S. and co-exclusive sublicense in remainder of world to patents and patent applications related to production of cannabinoids

Equity ownership and research agreement ended in [date] with Aurora's acquisition of Anandia



2019

April

Partnership with KeyGene

Exclusive worldwide rights to all plant lines, intellectual property and research results developed through multi-year partnership



December

Investment in Panacea Life Sciences, Inc.

Vertically integrated, hemp-derived CBD company

Platform company to commercialize unique hemp/cannabis plant lines



KeyGene Partnership



A legacy of open innovation with crop improvement through molecular breeding

Experience with more than 30 food and horticultural crops

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

Developed tobacco molecular breeding program for BAT, Altria and PMI

Creating a cutting-edge genetic database which utilizes the results of genomic analyses of several hundred existing, exceptional hemp/cannabis plant lines for use in the acceleration of the development of unique and valuable hemp/cannabis plants

- ▶ Enhancing genetic and metabolic variation to empower development of new and significantly improved varieties of hemp/cannabis plant lines and varieties with highly desirable cannabinoid profiles optimized for medicinal or therapeutic applications.
- ▶ Creating a proprietary and industry-leading high-resolution “molecular genetic map” of the entire cannabis plant genome to facilitate rapid, cost-effective breeding of innovative varieties of hemp/cannabis plants with distinctive agronomic traits.
- ▶ Analysing the genomic sequences of multiple varieties of the hemp/cannabis plant and identifying shared genetic markers, allowing the rapid development of improved commercial hemp/cannabis plant lines.

Investment in Panacea Life Sciences, Inc.



Rapidly-growing,
vertically-
integrated,
consumer facing
company

Initial investment of
\$14 million of cash
and stock in debt,
equity and warrant

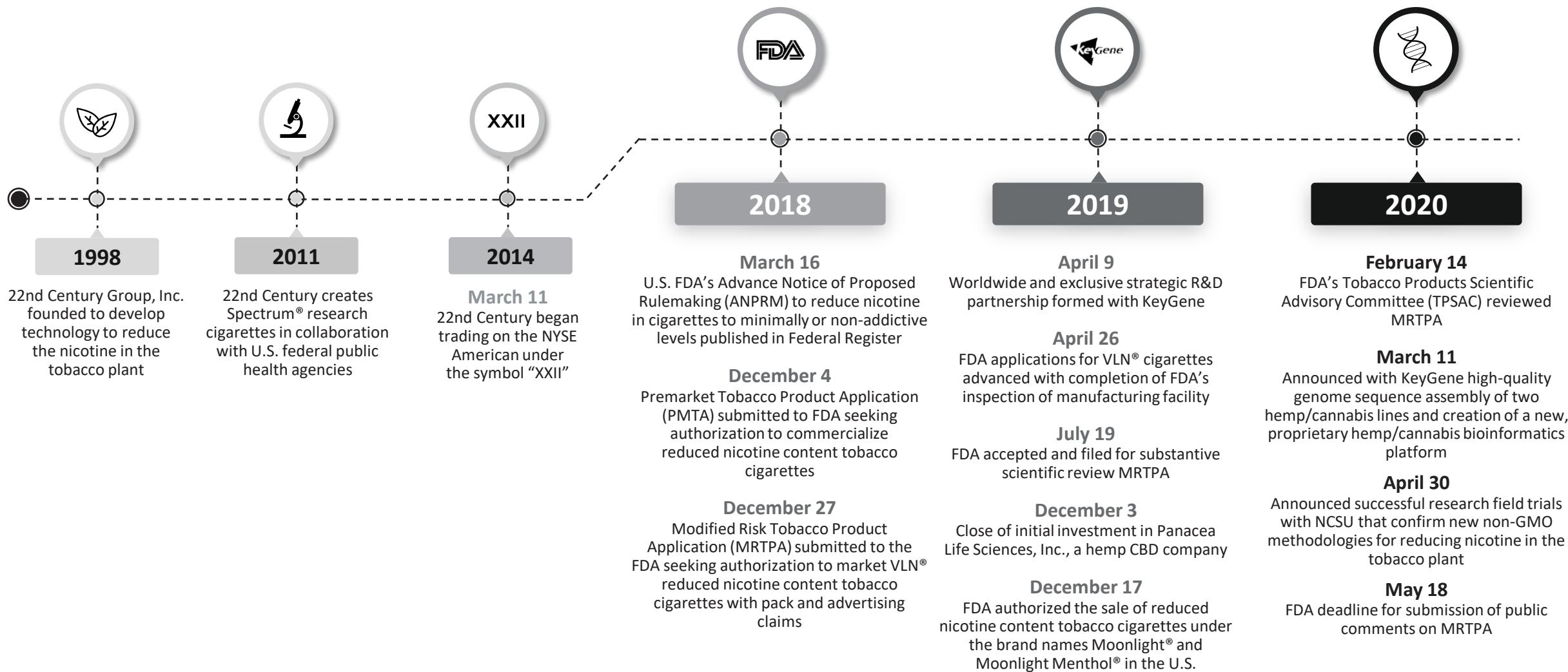
Warrant provides
defined path to
control

Significant revenue
growth in 2019 with
gross margins over
50%

Provides platform to commercialize 22nd Century's unique hemp/cannabis plant lines in development
and leverage strengths in consumer-packaged-goods and FDA-regulatory affairs

- ▶ 51,000 sq. ft. production facility in Golden, Colorado
- ▶ Capacity to produce \$1.0B of finished goods annually
- ▶ Track-and-trace capabilities and stringent quality control and testing at every step, from seed-to-sale, facilitated by custom-developed SAP application
- ▶ Comprehensive extraction, distillation, testing and manufacturing operations with state-of-art CO2 extraction to produce THC-free distillate oil
- ▶ Product portfolio includes full and broad spectrum tinctures, topicals, tablets and edibles for humans and animals

Company Achievements



Investment Highlights



Large Market Opportunity in tobacco and hemp/cannabis industries

Strategic Partnerships formed with KeyGene and Panacea; others in development

Experienced Team with background in plant biotechnology, regulatory affairs and tobacco/consumer packaged goods

Significant Regulatory Progress made on PMTA and MRTPA FDA applications

Valuable Intellectual Property Portfolio with dozens of issued and pending patent applications around the world

Financial Strength including NYSE American listing and strong balance sheet



22nd Century Group, Inc.

Q&A

