

22nd Century Group, Inc. (XXII - \$2.21 - Buy)

COMPANY NOTE

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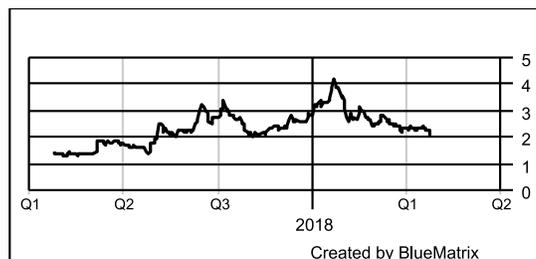
Sales and trading 7 a.m. to 7 p.m. ET, (646) 465-9090
Sales and trading 7 p.m. to 7 a.m. ET, (646) 465-9063

Stock Data	06/07/18
Price	\$2.21
52 Week Range	(\$1.33 - \$4.44)
Price Target	\$11.50
Market Cap (mil)	\$274.35
Shares out (mil)	124.14
3-Mo Avg Vol	1,714,210
Cash per share	\$0.48
Total Debt (mil)	\$0.00

Revenues (\$ millions)					
Yr Dec	2017A	2018E		2019E	
	Actual	Curr	Prev	Curr	Prev
Mar	2.2	6.1A	-	-	-
Jun	3.9	-	-	-	-
Sep	4.5	-	-	-	-
Dec	5.9	-	-	-	-
YEAR	16.6	18.1	-	20.0	-

EPS (\$)					
Yr Dec	2017A	2018E		2019E	
	Actual	Curr	Prev	Curr	Prev
Mar	(0.03)	0.01A	-	-	-
Jun	(0.03)	-	-	-	-
Sep	(0.03)	-	-	-	-
Dec	(0.03)	-	-	-	-
YEAR	(0.13)	(0.12)	-	(0.14)	-

One year price history XXII



ANPRM Comment Period Extended, Slightly. Russell Addition Likely

The FDA announced it is extending the comment period of its ANRPM, "Tobacco Product Standard for Nicotine Level of Combusted Cigarettes," but only for 30 days. The comment period was also extended for the FDA's associated ANPRMs, "Illicit Trade in Tobacco Products after Implementation of an FDA Product Standard," "Regulation of Flavors in Tobacco Products." and "Regulation of Premium Cigars." We had expected the comment period to be extended but for possibly as much as 90 days, so the FDA's action is incrementally positive and supports our thesis the FDA is attempting to move this procedure along rapidly.

After the comment period ends the FDA will evaluate the submissions and will likely publish a Notice of Proposed Rulemaking followed by another comment period and the final rulemaking, maybe late 2019/early 2020. We think the opportunity for 22nd Century is very large and the risks will likely be timing since Big Tobacco will try to delay the process and water down the mandate as much as it is able.

Countering this is a seeming aggressiveness by the FDA to implement a meaningful mandate and support from the medical community exemplified by an [open letter](#) from 40 public health and medical organizations calling for the FDA to issue a proposed rule by September this year, a final rule in March 2019 and implementation by March 2020. The letter, signed by the American Heart Association, the American Lung Association, the AMA, and many others is clear support by the medical community for the mandate and the aggressive schedule it calls for is probably the best case scenario. We believe a final rule by the end of 2019/beginning of 2020 is possible with implementation 12-24 months following.

22nd Century is also working to submit an MRTP (modified risk tobacco product) application for its Brand A very low nicotine cigarettes, which we expect by year end. A twelve month evaluation process would put approval close in time to the low nicotine mandate. We can envision a scenario where the FDA approves the Brand A application expeditiously in order to move the mandate forward by demonstrating very low nicotine commercial products are available.

The stock could receive a boost from its likely addition to the Russell 2000 Index later this month as well as continued strong financial performance from its contract manufacturing operation.

We believe there is more the company can do to strengthen its position in the market including licensing agreements for its technology, producing other tobacco plant varieties, international VLN opportunities, increasing its contract manufacturing business and growing additional crops of VLN tobacco.

We expect the tobacco industry to attempt to push the process as far to the right as possible. We also think it will try to delay implementation, argue for a gradual reduction in nicotine levels and claim the standard is not technically achievable and/or too expensive to meet. Political risk is also present. Pushing the process to the right will allow elections to have an impact on the Federal Government's leadership and on the composition of FDA's leadership and priorities.

Another pending catalyst for the shares is the publication of results from a study led by Dr. Dorothy Hatsukami of a 1,250 patient, 20-week study evaluating smoking cessation strategies on three cohorts of smokers using 22nd Century's SPECTRUM cigarettes. One group used Very Low Nicotine (VLN) cigarettes, another group gradually reduced their nicotine content and a third group used cigarettes with normal nicotine content. Preliminary results showed use of VLN cigarettes immediately is the "most likely to lead to less harm," and has a "greater likelihood of more rapid smoking cessation." Since this is the focus of the FDA's regulatory process, the publication of this study will bolster the FDA's desire to set maximum nicotine standards in cigarettes.

It is important for regulatory agencies to build a case that overcomes the inevitable objections by industry participants, public policy advocates, the general public and Congress. The Hatsukami study joins a large body of evidence very-low nicotine cigarettes can reduce the harm from cigarettes and lead to greater rates of smoking cessation.

Regulatory changes in the US will likely be a precursor to changes in other jurisdictions. 22nd Century indicates Canada, New Zealand, Finland and the UK are investigating nicotine reduction strategies. Our price target only includes an assumption of changes in the US.

The company's quarterly burn is between \$3 and \$3.5 million, before the additional expenses for the MRTP. This can change as the process with the FDA progresses. There may be increased costs in hiring personnel and working with the FDA and third-parties in making known 22nd Century's capabilities in the market. Additionally, we believe the company will need to protect and advance its technology which could result in higher R&D and G&A. To date, most of the company's revenues have been generated by contract manufacturing, and the company intends to continue growing this business.

Cash will be critical. The FDA process could be long and expensive depending on additional studies that may be required to build the record as well as personnel to make 22nd Century's technology known by the relevant constituents to the FDA's nicotine limiting initiative.

We maintain our Buy recommendation on 22nd Century and reiterate our 12-month price target of \$11.50. We believe 22nd Century's patents, covering nicotine regulation in tobacco plants, is a solution to the FDA's pending regulation of nicotine levels in combustible cigarettes. We believe XXII has the opportunity to license its technology to Big Tobacco at a fraction of the cost they are currently contemplating it will take to comply with potential FDA regulations and this could result in a royalties or licensing stream far surpassing today's market cap. While our price target is based on changes in the US market we expect other countries to follow the FDA's lead, opening up additional markets for XXII and higher expected value for the shares.

Valuation:

Our twelve-month price target of \$11.50 is based on the company garnering royalty revenue for its technology on 10% of the US market share in the next five years, discounted at a 20% annual rate.

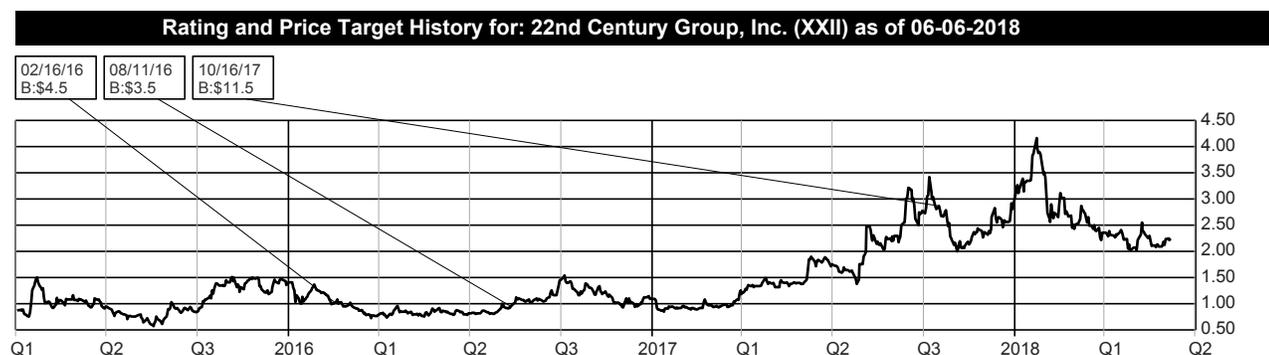
Risks to achievement of target price:

Risks to achieving our price target include delays in the FDA process, ability to find partners for X-22, challenges in attracting contract manufacturing and selling product overseas and possibility of requiring additional capital.

Company description:

22nd Century owns or exclusively controls over 200 issued patents, 50 pending patent applications. The company's proprietary technology enables the control of nicotine levels in tobacco plants by controlling the genes responsible for nicotine production in tobacco plants.

Required Research Disclosures



Created by: BlueMatrix

Distribution of Ratings/IB Services Chardan Capital Markets

Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [BUY]	61	71.76	22	36.07
HOLD [NEUTRAL]	19	22.35	3	15.79
SELL [SELL]	0	0.00	0	0.00
NOT RATED [NR]	5	5.88	0	0.00

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22nd Century Group, Inc. (XXII) - \$2.21 - Buy

Price Target \$11.50

VALUATION:

Our twelve-month price target of \$11.50 is based on the company garnering royalty revenue for its technology on 10% of the US market share in the next five years, discounted at a 20% annual rate.

RISKS TO ACHIEVEMENT OF TARGET PRICE:

Risks to achieving our price target include delays in the FDA process, ability to find partners for X-22, challenges in attracting contract manufacturing and selling product overseas and possibility of requiring additional capital.

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