

22nd Century Group, Inc. (XXII - \$0.95 - Buy)

COMPANY NOTE

JAMES McILREE, CFA, Senior Research Analyst, +1-646-465-9034
jmcilree@chardan.com

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

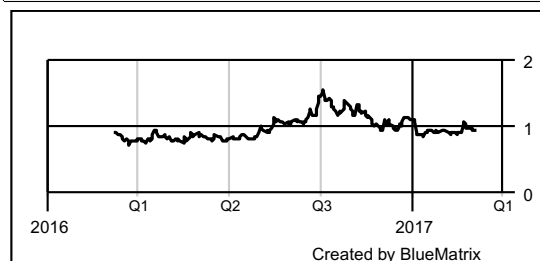
Sales and trading 7 p.m. to 7 a.m. ET, (646) 465-9063

Stock Data		03/06/17
Price		\$0.95
52 Week Range		(\$0.71 - \$1.71)
Price Target		\$3.50
Market Cap (mil)		\$86.17
Shares out (mil)		90.70
3-Mo Avg Vol		902,043
Cash per share		\$0.18
Total Debt (mil)		\$0.63

Revenues (\$ millions)						
Yr Dec	2015A		2016E		2017E	
	Actual		Curr	Prev	Curr	Prev
Mar	0.6		3.0A	–	3.1	–
Jun	2.3		2.8A	–	3.3	–
Sep	2.7		3.1A	–	3.6	–
Dec	2.9		3.1	–	5.9	–
YEAR	8.5		12.1	–	15.9	–

EPS (\$)						
Yr Dec	2015A		2016E		2017E	
	Actual		Curr	Prev	Curr	Prev
Mar	(0.06)		(0.04)A	–	(0.03)	–
Jun	(0.02)		(0.04)A	–	(0.03)	–
Sep	(0.04)		(0.03)A	–	(0.03)	–
Dec	(0.04)		(0.03)	–	(0.01)	–
YEAR	(0.16)		(0.14)	–	(0.11)	–

One year price history XXII



Moving Forward with the FDA

We expect 22nd Century to report Q4 results this week. Our revenue estimate for the quarter is \$3.1 million, equivalent to Q3 results. For the full year this results in revenue of \$12 million.

We expect the company on its earnings call to focus on recent communications with the FDA regarding its PMTA (Pre-market Tobacco Product Applications), the MRTP (Modified Risk Tobacco Product) applications and a path forward for X-22.

Earlier this month the FDA granted a guidance meeting to discuss X-22 and the ways 22nd Century could attempt to win approval for X-22 as a prescription-based aid for smoking cessation. The company has also received written feedback on the MRTP application for Brand A, the company's very low nicotine (VLN) cigarette. As we progress through the year we expect additional milestones to be reached on 22nd Century's attempt to use its proprietary technology to create VLN products for the smoking cessation market.

Supporting this could be results from a recently completed FDA/NIH study of 1200 patients that examined VLN versus gradual step down in nicotine levels. Importantly, both arms of this study used 22nd Century's SPECTRUM cigarettes. We hope news from this study could be released expeditiously but it is also possible analysis of the data and presentation of the results could be some time off.

We think the company is making progress on expanding its contract manufacturing business and expect business to continue to build over the coming quarters, which could drive revenue growth this year.

An \$11.5 million capital raise in October of last year gave the company ample cash to pursue continued monetization of its technology. The company had about \$5 million of cash at the end of Q3 and this raise will result in a pro forma cash balance exceeding \$16 million, or almost 8 quarters of operating losses at recent rates. Post the raise, 22nd Century will have about 91 million shares, and almost 14 million warrants which, if exercised for cash would result in an additional \$13 million in cash for the company. This is the largest amount of cash the company has ever had and is coincident with potential significant catalysts.

Recently, in testimony for the Crede litigation, which has been withdrawn by Crede, the company stated that its patents are worth more than \$200 million, or greater than \$2.50 per share. We value X-22/Modified risk at \$2.50 per share and the combined value of the potential BAT royalty stream and commercial products at \$1.00 per share to reflect a modest tempo in the roll-out of commercial products as well as a less steep ramp for the BAT royalties. We have not given any value for the company's 25% ownership of Anandia or its exclusive US rights to four genes required for cannabinoid production in the cannabis plant. 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.

Investment Summary:

The company's path to value creation remains the same: monetizing its extensive intellectual property which allows it to modulate the level of nicotine in tobacco plants through genetic engineering and plant breeding. There are a number of paths the company is pursuing to monetize this technology.

One of the most promising paths for 22nd Century is the pending application with the FDA for a reduced exposure designation for its Brand A, low-nicotine cigarette.

The company is also attempting to develop a low nicotine cigarette brand, MAGIC, and high nicotine brand RED SUN. Sales to date have been modest but 22nd Century continues to make progress in the US and international markets. For instance, shipments to Australia and France are scheduled for September of both RED SUN and MAGIC.

Most of the company's revenues this year have been for contract manufacturing which it is seeking to expand. It continues to target the filtered cigar market which has been roiled by a recent change in FDA regulations. This could result in an opportunity for the company to increase its presence in this space.

Recently, in testimony for the Crede litigation, the company stated that its patents are worth more than \$200 million, or greater than \$2.50 per share. We value X-22/Modified risk at \$2.50 per share and the combined value of the potential BAT royalty stream and commercial products at \$1.00 per share to reflect a modest tempo in the roll-out of commercial products as well as a less steep ramp for the BAT royalties. We have not given any value for the company's 25% ownership of Anandia or its exclusive US rights to four genes required for cannabinoid production in the cannabis plant. 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. The company is fully funded for almost two years.

Valuation:

We value X-22/Modified risk at \$2.50 per share and the combined value of the potential BAT royalty stream and commercial products at \$1.00 per share. We have not included a value for the company's investment in Anandia.

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.

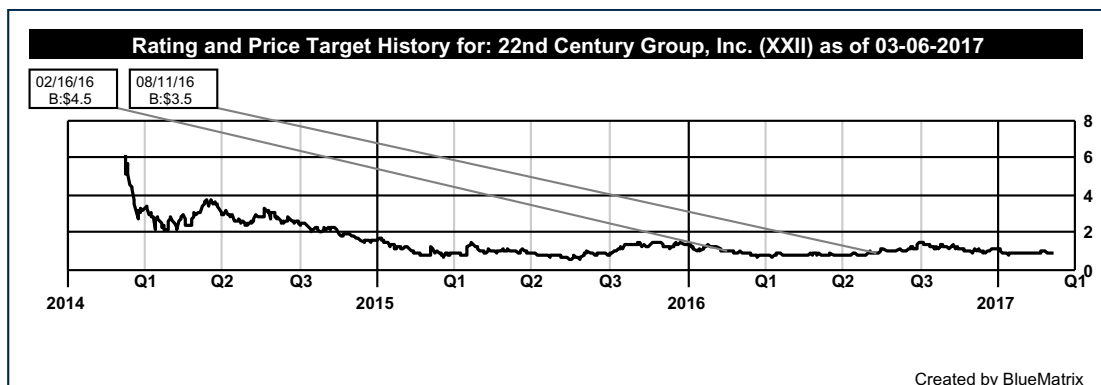
22nd Century Group, Inc
Income Statement \$ in 000s

	2013	2014	2015	Q1 16	Q2 16	Q3 16	Q4 16 E	2016 E	2017 E
Revenue	\$ 7,278	\$ 529	\$ 8,522	\$ 3,019	\$ 2,828	\$ 3,098	\$ 3,125	\$ 12,069	\$ 15,863
Cost Of Goods Sold	462	498	9,103	2,895	2,969	3,282	2,863	12,009	12,896
Gross Profit	6,817	31	(581)	124	(141)	(185)	263	61	2,967
R&D	744	1,249	1,669	597	510	692	600	2,399	2,759
G&A	4,107	8,793	7,760	1,847	1,722	1,231	1,750	6,549	7,204
Pre-Mfg. Facility Costs	0	1,177	0	0	0	0	0	0	0
Sales & marketing	9	86	1,358	703	251	277	277	1,508	2,262
Depreciation & Amort.	144	463	676	205	207	211	211	835	918
Opex	5,004	11,768	11,463	3,352	2,690	2,411	2,838	11,291	13,144
Operating Income	\$ 1,812	\$ (11,737)	\$ (12,044)	\$ (3,228)	\$ (2,831)	\$ (2,596)	\$ (2,576)	\$ (11,231)	\$ (10,177)
Interest Expense	(749)	(7)	(22)	(8)	(7)	(7)	(7)	(29)	(8)
Other	122	(30)	889	(87)	(64)	(30)	0	(182)	0
Warrant Charge	(27,339)	(3,821)	145	71	0	(47)	0	24	0
Pretax Income	(26,153)	(15,595)	(11,032)	(3,252)	(2,902)	(2,680)	(2,583)	(11,418)	(10,185)
Income Tax Expense	0	0	0	0	0	0	0	0	0
Net before Minority Interest	(26,153)	(15,595)	(11,032)	(3,252)	(2,902)	(2,680)	(2,583)	(11,418)	(10,185)
Minority Interest	0	0	0	0	0	0	0	0	0
Net to Common	\$ (26,153)	\$ (15,595)	\$ (11,032)	\$ (3,252)	\$ (2,902)	\$ (2,680)	\$ (2,583)	\$ (11,418)	\$ (10,185)
Shares	43,635	59,993	68,143	74,031	76,024	80,387	90,000	80,110	90,798
EPS	(\$0.60)	(\$0.26)	(\$0.16)	(\$0.04)	(\$0.04)	(\$0.03)	(\$0.03)	(\$0.14)	(\$0.11)

22nd Century Group, Inc
Balance Sheet and Cash Flow Statement \$ in 000s

	2013	2014	2015	Q1 16	Q2 16	Q3 16	Q4 16 E	2016 E	2017 E
Cash	5,831	6,403	3,760	6,052	2,841	5,191	13,088	13,088	5,348
Due from related party and officers	50	46	0	0	0	0	0	0	0
A/R	0	0	51	103	106	16	514	514	528
Inventory	1,406	2,065	2,706	2,921	3,147	3,047	3,351	3,351	3,913
Prepaid Consulting Fees	0	1,979	0	0	0	0	0	0	0
Prepaid Exp.	458	214	636	529	717	415	456	456	532
Total Current Assets	\$ 7,744	\$ 10,707	\$ 7,154	\$ 9,605	\$ 6,811	\$ 8,669	\$ 17,409	\$ 17,409	\$ 10,321
Patent and Trademark costs	1,545	7,078	7,364	7,383	7,385	7,401	7,339	7,339	7,094
PP&E	2,998	2,851	2,556	2,477	2,415	2,448	2,487	2,487	2,599
Equity Investment	0	1,318	1,223	1,135	1,081	1,050	1,050	1,050	1,050
Total Assets	\$ 12,287	\$ 21,954	\$ 18,296	\$ 20,600	\$ 17,691	\$ 19,568	\$ 28,286	\$ 28,286	\$ 21,065
Bank Loans and N/P	175	495	309	315	321	327	327	327	327
A/P	55	884	1,283	1,729	1,567	1,382	1,519	1,519	1,774
Accrued Expenses	576	1,294	1,570	1,442	1,416	1,278	1,405	1,405	1,641
Deferred Revenue	179	0	0	0	0	0	0	0	0
Total Current Liabilities	\$ 984	\$ 2,673	\$ 3,162	\$ 3,485	\$ 3,305	\$ 2,987	\$ 3,252	\$ 3,252	\$ 3,742
Long-Term Debt	0	605	308	308	308	308	308	308	308
Accrued Severance	0	412	200	145	90	30	0	0	0
Warrant Liability & Other	3,780	3,043	2,898	17	27	74	74	74	74
Shareholder's Equity	7,523	15,220	11,729	16,644	13,962	16,170	24,653	24,653	16,942
Total Liabilities And Equity	\$ 12,287	\$ 21,954	\$ 18,296	\$ 20,600	\$ 17,691	\$ 19,568	\$ 28,286	\$ 28,286	\$ 21,065
Net Income	(26,153)	(15,595)	(11,032)	(3,252)	(2,902)	(2,680)	(2,583)	(11,418)	(9,311)
Depreciation & Amort.	144	463	774	181	183	187	147	697	633
Stock Comp	980	2,293	1,326	260	472	(55)	350	1,027	1,400
Other	29,386	6,740	2,341	74	(154)	416	(30)	306	0
Working Capital	(501)	(483)	(731)	(62)	(690)	40	(577)	(1,288)	(162)
Operating Cash Flow	\$ 3,856	\$ (6,583)	\$ (7,322)	\$ (2,799)	\$ (3,091)	\$ (2,092)	\$ (2,693)	\$ (10,676)	\$ (7,440)
Acquisition of Patents and trademarks	(290)	(727)	(413)	0	(101)	(136)	0	(237)	0
Capx	(3,452)	(212)	(37)	(2)	(19)	(105)	(125)	(251)	(500)
Other	0	(1,769)	0	0	0	0	0	0	0
Investing Activities	\$ (3,743)	\$ (2,708)	\$ (451)	\$ (2)	\$ (120)	\$ (241)	\$ (125)	\$ (487)	\$ (500)
Debt	(1,810)	(4)	(508)	0	0	0	0	0	0
Equity	7,536	9,859	5,592	5,092	0	4,683	10,716	20,491	200
Other	(9)	7	46	0	0	0	0	0	0
Financing Activities	\$ 5,717	\$ 9,863	\$ 5,130	\$ 5,092	\$ -	\$ 4,683	\$ 10,716	\$ 20,491	\$ 200
Change in Cash	\$ 5,830	\$ 572	(\$2,642)	\$ 2,291	(\$3,211)	\$ 2,350	\$ 7,898	\$ 9,328	(\$7,740)

Required Research Disclosures



Distribution of Ratings/IB Services Chardan Capital Markets

Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [BUY]	58	65.91	18	31.03
HOLD [NEUTRAL]	25	28.41	2	8.00
SELL [SELL]	4	4.55	0	0.00
NOT RATED [NR]	1	1.14	1	100.00

Regulation Analyst Certification ("Reg AC") — JAMES McILREE, CFA

ANALYST(s) CERTIFICATION: The analyst(s) responsible for covering the securities in this report certify that the views expressed in this research report accurately reflect their personal views about "Company" and its securities. The analyst(s) responsible for covering the securities in this report certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendation or view contained in this research report.

DISCLOSURES

Within the last twelve months, Chardan Capital Markets has received compensation for investment banking services from 22nd Century Group, Inc.. This research contains forward looking statements made pursuant to the safe harbor provision of Private Securities Litigation Act of 1995.

Within the past 12 months Chardan Capital Markets has managed or co-managed a public offering for 22nd Century Group, Inc..

Chardan Capital Markets intends to seek compensation for investment banking services from all companies under research coverage. Chardan Capital Markets or its officers, employees or affiliates may execute transactions in securities mentioned in this report that may not be consistent with the report's conclusions.

RATINGS

Buy: Expected to materially outperform sector average over 12 months and indicates total return of at least 10% over the next 12 months.

Neutral: Returns expected to be in line with sector average over 12 months and indicates total return between negative 10% and 10% over the next 12 months.

Sell: Returns expected to be materially below sector average over 12 months and indicates total price decline of at least 10% over the next 12 months.

22nd Century Group, Inc. (XXII) - \$0.95 - Buy

Price Target \$3.50

VALUATION:

We value X-22/Modified risk at \$2.50 per share and the combined value of the potential BAT royalty stream and commercial products at \$1.00 per share. We have not included a value for the company's investment in Anandia.

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.

FORWARD-LOOKING STATEMENTS: This Report contains forward-looking statements, which involve risks and uncertainties. Actual results may differ significantly from such forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in the “Risk Factors” section in the SEC filings available in electronic format through SEC Edgar filings at www.SEC.gov on the Internet.

COMPENSATION OR SECURITIES OWNERSHIP: The analyst(s) responsible for covering the securities in this report receives compensation based upon, among other factors, the overall profitability of Chardan Capital Markets including profits derived from investment banking revenue and securities trading and market making revenue. The analyst(s) that prepared the research report did not receive any compensation from the Company or any other companies mentioned in this report in connection with the preparation of this report. The analysts responsible for covering the securities in this report currently do not own common stock in the Company, but in the future may from time to time engage in transactions with respect to the Company or other companies mentioned in the report. Chardan expects to receive, or intends to seek, compensation for investment banking services from the Company in the next three months.

GENERAL: This report is provided for informational purposes only. It is not to be construed as an offer to buy or sell a solicitation of an offer to buy or sell any financial instruments or to particular trading strategy in any jurisdiction. The information and opinions in this report were prepared by registered employees of Chardan Capital Market. The information herein is believed by Chardan Capital Market to be reliable and has been obtained from public sources believed to be reliable, but Chardan Capital Market makes no representation as to the accuracy or completeness of such information. Opinions, estimates and projections in this report constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of Chardan Capital Market and are subject to change without notice. In addition, opinions, estimates and projections in this report may differ from or be contrary to those expressed by other business areas or group of Chardan Capital Market and its affiliates. Chardan Capital Market has no obligation to update, modify or amend this report or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

Chardan Capital Market does not provide individually tailored investment advice in research reports. This report has been prepared without regard to the particular investments and circumstances of the recipient. The securities discussed in this report may not be suitable for all investors and investors must make their own investment decisions using their own independent advisors as they believe necessary and based upon their specific financial situations and investment objectives. Estimates of future performance are based on assumptions that may not be realized. Furthermore, past performance is not necessarily indicative of future performance.

Chardan Capital Market salespeople, traders and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions that are contrary to the opinions expressed in this research.

Electronic research is simultaneously available to all clients. This report is provided to Chardan Capital Market clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of Chardan Capital Market. Receipt and review of this research report constituted your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion or information contained in this report (including any investment recommendations, estimates or target prices) without first obtaining express permission from Chardan Capital Market.

This report is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation.

For investors in the UK: In making this report available, Chardan Capital Market makes no recommendation to buy, sell or otherwise deal in any securities or investments whatsoever and you should neither rely or act upon, directly or indirectly, any of the information contained in this report in respect of any such investment activity. This report is being directed at or distributed to, (a) persons who fall within the definition of Investment Professionals (set out in Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the “Order”)); (b) persons falling within the definition of high net worth companies, unincorporated associations, etc. (set out in Article 49(2) of the Order); (c) other persons to whom it may otherwise lawfully be communicated (all such persons together being referred to as “relevant persons”). This report must not be acted on or relied on by persons who are not relevant persons.