

22nd Century Group, Inc. (XXII - \$1.26 - Buy)

COMPANY NOTE

JAMES McILREE, CFA, Senior Analyst, 646-465-9034
 jmcilree@chardancm.com

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

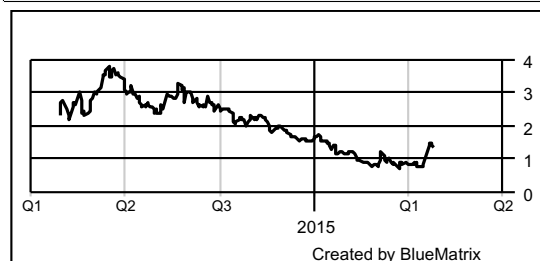
Sales and trading 7 p.m. to 7 a.m. ET, (646) 465-9063

Stock Data		04/28/15
Price		\$1.26
52 Week Range		(\$0.65 - \$3.87)
Price Target		\$9.00
Market Cap (mil)		\$81.07
Shares out (mil)		64.34
3-Mo Avg Vol		383,165
Cash per share		\$0.25
Total Debt (mil)		\$1.01

EPS (\$)						
Yr Dec	2014A		2015E		2016E	
	Actual		Curr	Prev	Curr	Prev
Mar	(0.09)		(0.04)	–	(0.02)	–
Jun	(0.03)		(0.04)	–	(0.02)	–
Sep	(0.05)		(0.03)	–	(0.02)	–
Dec	(0.09)		(0.03)	–	(1.00)	–
YEAR	(0.26)		(0.13)	–	(0.07)	–
P/E	(4.8)x		(9.7)x	–	(18.0)x	–

Revenues (\$ millions)						
Yr Dec	2014A		2015E		2016E	
	Actual		Curr	Prev	Curr	Prev
Mar	0.4		0.1	–	2.4	–
Jun	0.0		0.2	–	3.0	–
Sep	0.1		1.3	–	3.8	–
Dec	0.0		2.0	–	4.5	–
YEAR	0.5		3.5	–	13.6	–

One year price history XXII



Roll-outs of RED SUN and MAGIC Accelerates.

We believe the roll-out of RED SUN and MAGIC are proceeding faster than we have modeled and there is upside to our estimates. 22nd Century's near-term focus is building distribution of RED SUN in the US, rolling out MAGIC in Europe and expanding its contract manufacturing. For this year we have \$3.5 million in revenue from these three sources, and assume the greatest contribution from contract manufacturing, then RED SUN, followed by a slower ramp in MAGIC. However, greater contribution from RED SUN and MAGIC should result in better gross margins since proprietary product sales have higher gross margins than contract manufacturing.

RED SUN is now carried in about 300 stores in the US and with more distributors to be announced in the coming months that number should rise substantially. The real test will be consumer acceptance and follow-on orders. This should become evident by the end of this quarter or into Q3. We have sales ramping slowly during the year and think this can be exceeded given the progress 22nd Century has made with distributors.

MAGIC is also proceeding at a quicker pace than we have modeled. 900 stores have pre-ordered MAGIC Zero and MAGIC 2 and product is arriving now. Additional stores are expected in Spain and additional countries will be added during the course of the year. This should result in sales higher than we have modeled for the year.

In August of 2014 22nd Century and Smoker Friendly entered into a multi-year manufacturing agreement where 22nd Century would supply the 800 Smoker Friendly stores with the SF house brand. The company announced initial sales of the Smoker Friendly brand recently and sales will ramp based on how quickly inventory of SF's previous contract manufacturing supplier is cleared, which should take a couple of months. The company has other contract manufacturing jobs and is actively pursuing others.

Other catalysts for the shares include an application for modified risk cigarettes, X-22 and the China JV. 22nd Century is seeking a pharmaceutical partner to fund a phase 3 study of its Brand A very-low nicotine cigarette. A handful of studies can be presented to the FDA, supplemented with a consumer perception study, reducing the time and expense required to get modified risk designation from the FDA. The company is also seeking a pharmaceutical partner to fund a phase 3 study for X-22. The China JV remains the biggest upside to our estimates since its contribution could quickly dwarf contributions from RED SUN, MAGIC and contract manufacturing.

Cash at the end of the year was \$6.4 million and 2015 will be needed to fund operating losses this year. There is over \$2 million in inventory that will turn to cash in the next few months, but a large increase in RED SUN or contract manufacturing could place additional calls on cash to fund working capital. We have cash at the

end of the year at \$3 million, but this includes additional equity contributions of \$2 million. Cash needs will have greater exigency as the year wears on.

We remain positive on the shares given near-term revenue generation for multiple sources but clearly the story has taken longer to develop than we expected. We believe there is a good chance the company will exceed our revenue estimates and there is significant upside possible from its Asian joint venture. Our \$9 price target is driven by a sum-of-the-parts methodology comprised of the discounted present value of the projected BAT license revenue, the discounted value of commercial product sales, RED SUN and MAGIC, and a value for the company's modified risk and X-22 initiatives.

Investment Summary:

We expect meaningful revenues to begin from product sales of the company's proprietary RED SUN and MAGIC brands. Over the longer-term 22nd Century will pursue the \$1 billion US smoking-cessation market with its proprietary X-22 cigarette, and will file with the FDA applications for modified risk cigarettes.

22nd Century owns or exclusively controls 128 issued patents, 53 pending patent applications and has co-exclusive rights to another 2 patents and 16 patent applications, which gives it exclusive worldwide rights to all uses for certain genes that control nicotine content in tobacco plants. 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.

The value of this technology was validated by BAT in October of 2013 when it signed a worldwide research license agreement with 22nd Century. The company received a \$7 million payment in Q4 of 2013. BAT has the option to turn this research license into a royalty-bearing commercial license at any time.

Valuation:

We approached valuation from a sum-of-the-parts perspective to arrive at our \$9.00 price target. We discounted the projected BAT license revenue at 10% and in the low case assumed the license terminated in 2028, while in the high case we assumed the license was extended by an additional 15 years.

For the commercial products we assume RED SUN and MAGIC can achieve \$150 to \$200 million in sales by 2023. Our EV/Sales valuation ranges are comparable to the 3.6x to 5.2x EV/Sales multiples awarded to Altira, British American Tobacco, Lorillard, Reynolds American and Philip Morris International.

Our modified risk/X-22 valuation of \$2 to \$4 per share is derived in a number of ways. E-cigarette makers, Victory Electronic Cigarettes and Vapor Corp., proxies for modified risk valuations, have enterprise values of \$499 million and \$141 million respectively. This equates to \$2.42 per share using the lower EV as a bogey. X-22 valuation using a modest market share of the smoking cessation market and EV/Sales of 2x to 3x also yields per share valuation to 22nd Century of over \$2 per share. We have heavily discounted these assumptions due to the longer-term nature of development of these lines of business as well as the additional capital required for them.

Risks to achievement of target price:

Risks to achieving our price target: We have assumed the commercial product growth trajectory will be similar to American Spirit, but changes in the industry can hinder 22nd Century from achieving our estimates. We have also assumed the BAT license will change from a research license to a commercial royalty-bearing license, but that too is not assured. The industry is subject to significant regulatory constraints, litigation, societal views on smoking and changing legislation. Any one of these could have a deleterious impact on our assumptions.

Company description:

22nd Century owns or exclusively controls 113 issued patents and 37 patent applications which gives it exclusive worldwide rights to all uses for certain genes that control nicotine content in tobacco plants. 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. This can be accomplished with or without genetic engineering.

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

	2012	2013	2014	Q1 15 E	Q2 15 E	Q3 15 E	Q4 15 E	2015 E	2016 E
Revenue	19	7,278	529	50	200	1,250	2,000	3,500	13,625
Cost Of Goods Sold	68	462	498	25	100	925	1,500	2,550	9,413
Gross Profit	(49)	6,817	31	25	100	325	500	950	4,213
R&D	729	744	1,249	400	400	400	400	1,600	2,000
G&A	2,205	4,107	8,793	1,600	1,600	1,600	1,600	6,400	7,040
Pre-Mfg. Facility Costs	0	0	1,177	0	0	0	0	0	0
Sales & marketing	62	9	86	250	250	250	250	1,000	1,400
Depreciation & Amort.	198	144	463	150	150	150	150	600	700
Opex	3,195	5,004	11,768	2,400	2,400	2,400	2,400	9,600	11,140
Operating Income	(3,244)	1,812	(11,737)	(2,375)	(2,300)	(2,075)	(1,900)	(8,650)	(6,928)
Interest Expense	(1,495)	(749)	(7)	(2)	(2)	(2)	(2)	(8)	(8)
Other	0	122	(30)	0	0	0	0	0	0
Warrant Charge	(1,998)	(27,339)	(3,821)	0	0	0	0	0	0
Pretax Income	(6,737)	(26,153)	(15,595)	(2,377)	(2,302)	(2,077)	(1,902)	(8,658)	(6,936)
Income Tax Expense	0	0	0	0	0	0	0	0	(2,427)
Net before Minority Interest	(6,737)	(26,153)	(15,595)	(2,377)	(2,302)	(2,077)	(1,902)	(8,658)	(4,508)
Minority Interest	1	0	0	0	0	0	0	0	0
Net to Common	(6,735)	(26,153)	(15,595)	(2,377)	(2,302)	(2,077)	(1,902)	(8,658)	(4,508)
Shares	30,420	43,635	59,993	63,974	64,474	64,974	65,474	64,724	66,724
EPS	(\$0.22)	(\$0.60)	(\$0.26)	(\$0.04)	(\$0.04)	(\$0.03)	(\$0.03)	(\$0.13)	(\$0.07)

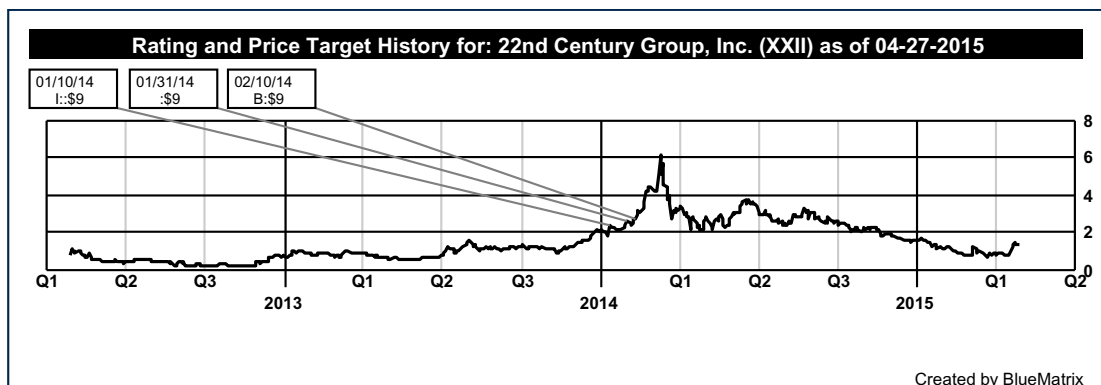
22nd Century Group, Inc
Income Statement \$ in 000s

	2012	2013	2014	2015 E	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E
Revenue	19	7,278	529	3,500	13,625	24,469	32,703	44,055	60,082	76,479
Cost Of Goods Sold	68	462	498	2,550	9,413	15,234	18,352	23,027	30,041	37,239
Gross Profit	(49)	6,817	31	950	4,213	9,234	14,352	21,027	30,041	39,239
R&D	729	744	1,249	1,600	2,000	2,300	2,645	3,042	3,498	4,023
G&A	2,205	4,107	8,793	6,400	7,040	7,744	8,518	9,370	10,307	11,338
Pre-Mfg. Facility Costs	0	0	1,177	0	0	0	0	0	0	0
Sales & marketing	62	9	86	1,000	1,400	2,100	3,150	3,938	4,528	4,981
Depreciation & Amort.	198	144	463	600	700	770	847	932	1,025	1,127
Opex	3,195	5,004	11,768	9,600	11,140	12,914	15,160	17,281	19,358	21,469
Operating Income	(3,244)	1,812	(11,737)	(8,650)	(6,928)	(3,680)	(809)	3,746	10,683	17,770
Interest Expense	(1,495)	(749)	(7)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
Other	0	122	(30)	0	0	0	0	0	0	0
Warrant Charge	(1,998)	(27,339)	(3,821)	0	0	0	0	0	0	0
Pretax Income	(6,737)	(26,153)	(15,595)	(8,658)	(6,936)	(3,688)	(817)	3,738	10,675	17,762
Income Tax Expense	0	0	0	0	(2,427)	(1,291)	(286)	1,308	3,736	6,217
Net before Minority Interest	(6,737)	(26,153)	(15,595)	(8,658)	(4,508)	(2,397)	(531)	2,430	6,939	11,545
Minority Interest	1	0	0	0	0	0	0	0	0	0
Net to Common	(6,735)	(26,153)	(15,595)	(8,658)	(4,508)	(2,397)	(531)	2,430	6,939	11,545
Shares	30,420	43,635	59,993	64,724	66,724	68,724	70,724	72,724	74,724	76,724
EPS	(\$0.22)	(\$0.60)	(\$0.26)	(\$0.13)	(\$0.07)	(\$0.03)	(\$0.01)	\$0.03	\$0.09	\$0.15

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

	2012	2013	2014	Q1 15 E	Q2 15 E	Q3 15 E	Q4 15 E	2015 E	2016 E
Cash	0	5,831	6,403	5,502	4,544	3,662	2,965	2,965	1,531
Due from related party and officers	41	50	46	46	46	46	46	46	46
A/R	0	0	0	41	164	411	616	616	2,055
Inventory	1,231	1,406	2,065	1,021	1,082	1,760	2,232	2,232	3,505
Prepaid Consulting Fees	0	0	1,979	1,473	967	461	0	0	0
Prepaid Exp.	10	458	214	106	112	183	232	232	364
Total Current Assets	1,281	7,744	10,707	8,188	6,915	6,522	6,091	6,091	7,501
Patent and Trademark costs	1,353	1,545	7,078	7,017	6,955	6,894	6,833	6,833	6,588
PP&E	6	2,998	2,851	2,883	2,912	2,935	2,955	2,955	2,988
Equity Investment	0	0	1,318	1,318	1,643	1,643	1,643	1,643	1,643
Total Assets	\$ 2,645	\$ 12,287	\$ 21,954	\$ 19,406	\$ 18,426	\$ 17,995	\$ 17,522	\$ 17,522	\$ 18,719
Bank Loans and N/P	2,686	175	495	495	495	495	495	495	495
A/P	1,411	55	884	437	464	754	956	956	1,501
Accrued Expenses	503	576	1,294	639	678	1,102	1,398	1,398	2,196
Deferred Revenue	0	179	0	0	0	0	0	0	0
Total Current Liabilities	4,603	984	2,673	1,572	1,637	2,352	2,850	2,850	4,193
Long-Term Debt	0	0	605	605	605	605	605	605	605
Accrued Severance	0	0	412	344	275	206	138	138	0
Warrant Liability & Other	4,173	3,780	3,043	3,043	3,043	3,043	3,043	3,043	3,043
Shareholder's Equity	(6,131)	7,523	15,220	13,843	12,866	11,789	10,887	10,887	10,879
Total Liabilities And Equity	\$ 2,645	\$ 12,287	\$ 21,954	\$ 19,406	\$ 18,426	\$ 17,995	\$ 17,522	\$ 17,522	\$ 18,719
Net Income	(6,737)	(26,153)	(15,595)	(2,377)	(2,302)	(2,077)	(1,902)	(8,658)	(4,508)
Depreciation & Amort.	198	144	463	154	158	162	167	641	712
Stock Comp	808	980	2,293	500	500	500	500	2,000	2,500
Other	3,866	29,386	6,740	(69)	(69)	(69)	(69)	(275)	(138)
Working Capital	100	(501)	(483)	516	380	226	232	1,354	(1,501)
Operating Cash Flow	(1,764)	3,856	(6,583)	(1,276)	(1,333)	(1,257)	(1,072)	(4,938)	(2,934)
Acquisition of Patents and trademarks	(163)	(290)	(727)	0	0	0	0	0	0
Capx	0	(3,452)	(212)	(125)	(125)	(125)	(125)	(500)	(500)
Other	0	0	(1,769)	0	0	0	0	0	0
Investing Activities	(163)	(3,743)	(2,708)	(125)	(125)	(125)	(125)	(500)	(500)
Debt	225	(1,810)	(4)	0	0	0	0	0	0
Equity	1,468	7,536	9,859	500	500	500	500	2,000	2,000
Other	(17)	(9)	7	0	0	0	0	0	0
Financing Activities	1,675	5,717	9,863	500	500	500	500	2,000	2,000
Change in Cash	(\$252)	\$ 5,830	\$ 572	(\$901)	(\$958)	(\$882)	(\$697)	(\$3,438)	(\$1,434)

Important Research Disclosures



Distribution of Ratings/IB Services Chardan Capital Markets

Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [BUY]	29	65.91	11	37.93
HOLD [NEUTRAL]	14	31.82	3	21.43
SELL [SELL]	0	0.00	0	0.00
NOT RATED [NR]	1	2.27	0	0.00

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.

Chardan Capital Markets expects to receive or intends to seek compensation for investment banking services from all companies under research coverage within the next three months. 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.

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.

GENERAL: Chardan Capital Markets ("Chardan") a FINRA member firm with offices in New York City NY, Palo Alto, CA and Beijing, China is an investment banking and institutional brokerage firm providing corporate finance, merger and acquisitions, brokerage, and investment opportunities for institutional, corporate, and private clients. The analyst(s) are employed by Chardan. Our research professionals provide important input into our investment banking and other

business selection processes. Our proprietary trading and investing businesses may make investment decisions that are inconsistent with the recommendations expressed herein. Chardan may from time to time perform corporate finance or other services for some companies described herein and may occasionally possess material, nonpublic information regarding such companies. This information is not used in preparation of the opinions and estimates herein. While the information contained in this report and the opinions contained herein are based on sources believed to be reliable, Chardan has not independently verified the facts, assumptions and estimates contained in this report. Accordingly, no representation or warranty, express or implied, is made as to, and no reliance should be placed on, the fairness, accuracy, completeness or correctness of the information and opinions contained in this report. The information contained herein is not a complete analysis of every material fact in respect to any company, industry or security. This material should not be construed as an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. We are not soliciting any action based on this material. It is for the general information of clients of Chardan. It does not take into account the particular investment objectives, financial situations, or needs of individual clients. Before acting on any advice or recommendation in this material, clients should consider whether it is suitable for their particular circumstances and, if necessary, seek professional advice. Certain transactions - including those involving futures, options, and other derivatives as well as non-investment-grade securities - give rise to substantial risk and are not suitable for all investors. The material is based on information that we consider reliable, but we do not represent that it is accurate or complete, and it should not be relied on as such. The information contained in this report is subject to change without notice and Chardan assumes no responsibility to update the report. In addition, regulatory, compliance, or other reasons may prevent us from providing updates.

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.