

22nd Century Group, Inc. (XXII - \$0.98 - Buy)
Estimate Change

COMPANY NOTE

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

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Stock Data	02/12/15
Price	\$0.98
52 Week Range	(\$0.96 - \$6.36)
Price Target	\$9.00
Market Cap (mil)	\$63.05
Shares out (mil)	64.34
3-Mo Avg Vol	253,998
Cash per share	\$0.25
Total Debt (mil)	\$1.01

Q4 Review

Q4 revenue was mostly as expected but cash opex was almost \$1 million higher than we forecast. We have made modest adjustments to our forecast to reflect greater contribution from contract manufacturing, less from BAT licenses and an increased level of opex. For this year, we have modeled a gradual ramp in sales, with Q1 revenue of \$50 thousand and Q4 of \$2 million. Our gross margin is modeled at 50% for RED SUN and MAGIC, and 10% for contract manufacturing

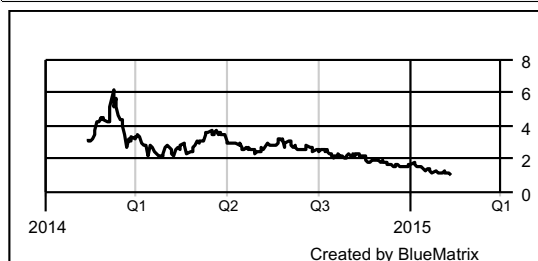
EPS (\$)					
Yr Dec	2014A	2015E		2016E	
	Actual	Curr	Prev	Curr	Prev
Mar	(0.09)	(0.04)	(0.03)	(0.02)	–
Jun	(0.03)	(0.04)	(0.03)	(0.02)	–
Sep	(0.05)	(0.03)	(0.01)	(0.02)	–
Dec	(0.09)	(0.03)	–	(1.00)	–
YEAR	(0.26)	(0.13)	(0.10)	(0.07)	–
P/E	(3.8)x	(7.5)x	–	(14.0)x	–

The company'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 still have \$3.5 million in revenue, but now assume a greater contribution from contract manufacturing, a slower ramp in MAGIC and assume there will not be a BAT license payment. The greater contribution from contract manufacturing results in a lower gross margin than our previous forecast which assumed a \$1.5 million license payment from BAT.

Revenues (\$ millions)					
Yr Dec	2014A	2015E		2016E	
	Actual	Curr	Prev	Curr	Prev
Mar	0.4	0.1	–	2.4	–
Jun	0.0	0.2	0.4	3.0	–
Sep	0.1	1.3	2.1	3.8	–
Dec	0.0	2.0	0.9	4.5	–
YEAR	0.5	3.5	–	13.6	–

There are still substantial catalysts for the shares including its expected application for modified risk cigarettes, X-22 and the China JV. The company has shifted its focus to applying for modified risk designation with Brand A before Brand B. Brand A is the very-low nicotine cigarette, where 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. For X-22, 22nd Century is seeking a pharmaceutical partner to fund a phase 3 study. The China JV remains the biggest upside to our estimates since its contribution could quickly dwarf contributions from RED SUN, MAGIC and contract manufacturing.

One year price history XXII



The company's 61,000 square foot facility in Mocksville, NC has ample capacity to manufacture and package RED SUN and pursue substantial contract manufacturing relationships. Currently, the facility has five lines operational giving it the flexibility to produce a wide variety of product configurations and serve many customers.

RED SUN and Smoker Friendly are currently in production. The company made its first shipment of RED SUN to RK Company, Inc, (aka Cigar Cartel) which was one of the largest independent distributors of American Spirit cigarettes in Southern California, and is a licensed stamping agent in California, Washington, Oregon, Idaho, Arizona, Texas, Nevada, and Wyoming. Sales of RED SUN will be gated by the ability of the company to find distribution partners. In its favor are the relationships management of 22nd Century developed while at Santa Fe Natural Tobacco, and the relative paucity of new super-premium brands in the market. Distributors and retailers are expected to be eager to embrace a new super-premium brand since margins are higher. Hindering the effort could be rules which prevent marketing of the brand's advantage of delivering a consumer's desired amount of nicotine in fewer puffs, potentially lowering the

amount of tar and other elements. We have a little over \$1 million in revenue from RED SUN, ramping as the year progresses.

MAGIC is now expected to ship in March, and we have \$375 thousand from this product in 2015. Tobacco will be sent to Poland where a contract manufacturer will produce and package for the European market. There are pre-orders for the product in 360 stores in Spain and other markets will be pursued during 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.

For 2015 we have total sales of \$3.5 million, comprised of RED SUN, MAGIC, and contract manufacturing. Contract manufacturing sales alone are likely to be far in excess of what we modeled based on SF volumes and additional contract jobs. RED SUN sales will depend on the company's ability to attract distributors and MAGIC should begin shipping in March. BAT controls when a research milestone is met and when/if it enters into a commercial license agreement. Because of this, the timing of milestone payments are challenging to forecast.

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 continue to believe there is a reasonable 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)

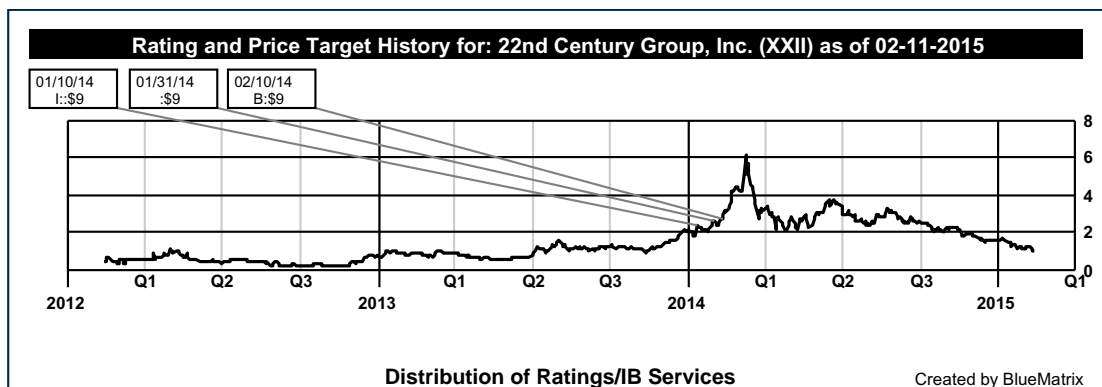
22nd Century Group, Inc
Income Statement \$ in 000s

	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



Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [BUY]	20	62.50	9	45.00
HOLD [NEUTRAL]	8	25.00	1	12.50
SELL [SELL]	2	6.25	1	50.00
NOT RATED [NR]	2	6.25	0	0.00

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

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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.

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