

22nd Century Group, Inc. (XXII - \$2.14 - Buy)
Estimate Change

COMPANY NOTE

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

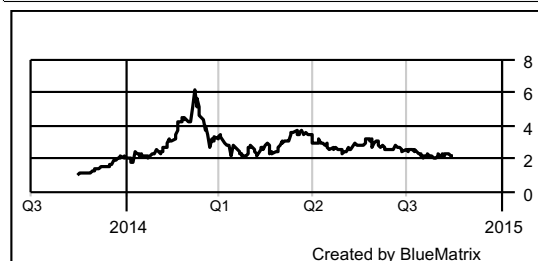
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Stock Data	11/17/14
Price	\$2.14
52 Week Range	(\$0.98 - \$6.36)
Price Target	\$9.00
Market Cap (mil)	\$135.57
Shares out (mil)	63.35
3-Mo Avg Vol	478,862
Cash per share	\$0.31
Total Debt (mil)	\$0.18

EPS (\$)					
Yr Dec	2013A	2014E		2015E	
	Actual	Curr	Prev	Curr	Prev
Mar	(0.07)	(0.09)A	–	(0.03)	–
Jun	(0.01)	(0.03)A	–	(0.03)	–
Sep	(0.32)	(0.05)A	(0.03)A	(0.01)	(0.02)
Dec	(0.15)	(0.03)	–	(0.03)	0.02
YEAR	(0.60)	(0.20)	(0.15)	(0.10)	(0.02)
P/E	(3.6)x	(10.7)x	–	(21.4)x	–

Revenues (\$ millions)					
Yr Dec	2013A	2014E		2015E	
	Actual	Curr	Prev	Curr	Prev
Mar	0.0	0.4A	–	0.1	1.3
Jun	0.0	0.0A	–	0.4	3.5
Sep	0.1	0.1A	0.2A	2.1	2.5
Dec	7.2	0.1	1.8	0.9	4.8
YEAR	7.3	0.6	2.4	3.5	12.0

One year price history XXII



Q3 Review

We are adjusting our 22nd Century model to reflect Q3 results and other recent events, including the change in management, the longer-than-expected time to become an MSA signatory, progress on the BAT research agreement and distribution of commercial products in the US and Europe. The company has multiple initiatives for sales in Asia, including China, that are not contemplated in our model, nor are potential benefits of the company's modified risk applications and investment in Anandia Labs, the the Canadian biotechnology company with patent rights on genes that regulate cannabinoids in cannabis and hemp plants. We continue to recommend purchase of the shares and reiterate our \$9 price target. We think the company's growth in the US, Europe, China, cannabis, BAT license revenue and modified risk products are not reflected in the share price.

One of the larger changes in our revenue model is the push to the right in the BAT research milestones. We had originally forecast the company would receive a \$1.5 million payment in Q4 of this year and two more in 2015, one in Q2 the other in Q4. The research milestones are dependent on a variety of factors including the timing of growing seasons, crop harvesting and post harvest analysis. There is more variability in these factors than we originally expected and have now taken a more conservative view on the timing of the research milestones, with one expected Q2 of next year and two more in 2016. We have not changed our outlook on what the commercial license agreement can mean to the company in the long-term and still estimate the present value of the BAT license is about equal to today's share price.

22nd Century's inclusion as a participating member of the MSA was a much longer process than we originally modeled. We had expected membership earlier in the year, but the company did not become a signatory to the agreement until almost September of this year. This delay pushed to the right the entire process of selling cigarettes in the US, and essentially Europe as well. The company is in the process of listing its super-premium brands on the state tobacco directories of approved products and expects to begin shipping RED SUN and MAGIC in January of next year. This is about six months later than we originally modeled. Although the US and European markets are not directly related, the delay in the US, we believe, resulted in similar deals in Europe.

Distribution in the US and Europe are under development and we think will be the key initiatives for the company over the coming months. The success in signing retail and distribution partners will drive the pace of sales in both the US and Europe as will the company's ability to generate repeat sales after the initial orders are placed. We have attempted to put a modest trajectory on the sales in both the US and Europe to reflect the challenges the company faces in bringing new products to market.

There are multiple initiatives, which we have not included in our estimates, that could bear fruit in the coming quarters. These include the modified risk application for Brand B in Q1 of 2015, a low tar-to-nicotine ratio cigarette, the Asia joint venture targeting the largest cigarette market in the world, and the investment in Anandia Labs, which owns genes controlling cannabinoid levels in cannabis and hemp plants.

We believe another factor in the delays is the recent departure of the company's CEO. We think there will likely be a short pause while management evaluates all of its initiatives and possibly re-prioritizes certain items, as is typically the case in any management change.

Henry Sicignano has taken on the COO position as well as President of the company. Mr. Sicignano has been instrumental in many of the company's successes and now that 22nd Century is on the cusp of product sales in the US, Europe and China, it is important for the company to have a manager of Mr. Sicignano's experience in an added role. From 1997 to 2002 Mr. Sicignano was with Santa Fe Natural Tobacco and was a key member of the team that drove sales of the American Spirit brand from from \$30 million to \$145 million before being sold to R.J. Reynolds for \$356 million. This experience will be critical since 22nd Century's two brands, Red Sun and Magic are being readied for launch in the US and European markets.

The creation of a joint venture to sell tobacco into the China market is a extraordinary opportunity for the company. A revenue triggering event could occur as early as next year if the company is able to deliver tobacco this year, which would be a positive event and upside to how we are thinking of the roll-out.

Investment Summary:

We expect meaningful revenues to begin from a number of sources including a license agreement with British American Tobacco (BAT) and commercial product sales from 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 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.

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 and we expect an additional \$7 million over the next 12-18 months. 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	Q1 14	Q2 14	Q3 14	Q4 14 E	2014 E	Q1 15 E	Q2 15 E	Q3 15 E	Q4 15 E	2015 E
Revenue	19	7,278	448	16	64	50	578	125	375	2,125	875	3,500
Cost Of Goods Sold	68	462	178	13	306	25	522	63	188	313	438	1,000
Gross Profit	(49)	6,817	270	3	(241)	25	56	63	188	1,813	438	2,500
R&D	729	744	222	263	349	300	1,135	400	400	400	400	1,600
G&A	2,205	4,107	1,005	1,345	1,811	1,500	5,661	1,600	1,600	1,600	1,600	6,400
Pre-Mfg. Facility Costs				275	269	0	544	0	0	0	0	0
Sales & marketing	62	9	158	34	23	150	366	250	250	250	250	1,000
Depreciation & Amort.	198	144	71	124	130	125	451	150	150	150	150	600
Opex	3,195	5,004	1,457	2,041	2,583	2,075	8,157	2,400	2,400	2,400	2,400	9,600
Operating Income	(3,244)	1,812	(1,187)	(2,038)	(2,825)	(2,050)	(8,100)	(2,338)	(2,213)	(588)	(1,963)	(7,100)
Interest Expense	(1,495)	(749)	(2)	(2)	(2)	(2)	(7)	(2)	(2)	(2)	(2)	(8)
Other	0	122	86	0	(41)	0	45	0	0	0	0	0
Warrant Charge	(1,998)	(27,339)	(4,212)	74	143	0	(3,995)	0	0	0	0	0
Pretax Income	(6,737)	(26,153)	(5,315)	(1,966)	(2,724)	(2,052)	(12,057)	(2,340)	(2,215)	(590)	(1,965)	(7,108)
Income Tax Expense	0	0	0	0	0	0	0	0	0	0	0	0
Net before Minority Interest	(6,737)	(26,153)	(5,315)	(1,966)	(2,724)	(2,052)	(12,057)	(2,340)	(2,215)	(590)	(1,965)	(7,108)
Minority Interest	1	0	0	0	0	0	0	0	0	0	0	0
Net to Common	(6,735)	(26,153)	(5,315)	(1,966)	(2,724)	(2,052)	(12,057)	(2,340)	(2,215)	(590)	(1,965)	(7,108)
Shares	30,420	43,635	57,647	58,749	60,104	64,700	60,300	65,200	65,700	66,200	66,700	65,950
EPS	(\$0.22)	(\$0.60)	(\$0.09)	(\$0.03)	(\$0.05)	(\$0.03)	(\$0.20)	(\$0.04)	(\$0.03)	(\$0.01)	(\$0.03)	(\$0.11)

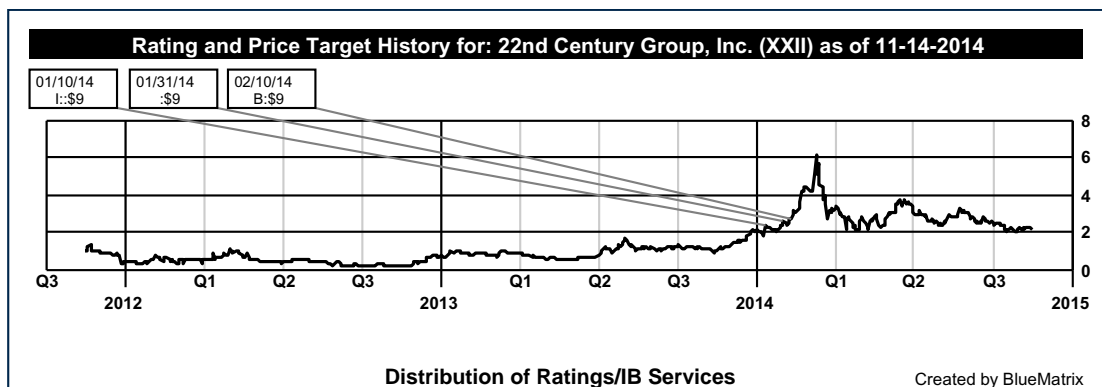
22nd Century Group, Inc
Income Statement \$ in 000s

	2012	2013	2014 E	2015 E	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E
Revenue	19	7,278	578	3,500	15,000	22,125	34,188	51,281	75,922	101,916
Cost Of Goods Sold	68	462	522	1,000	5,750	10,063	15,094	22,641	33,961	45,958
Gross Profit	(49)	6,817	56	2,500	9,250	12,063	19,094	28,641	41,961	55,958
R&D	729	744	1,135	1,600	2,000	2,300	2,645	3,042	3,498	4,023
G&A	2,205	4,107	5,661	6,400	7,040	7,744	8,518	9,370	10,307	11,338
Pre-Mfg. Facility Costs	0	0	544	0	0	0	0	0	0	0
Sales & marketing	62	9	366	1,000	1,400	2,100	3,150	3,938	4,528	4,981
Depreciation & Amort.	198	144	451	600	700	770	847	932	1,025	1,127
Opex	3,195	5,004	8,157	9,600	11,140	12,914	15,160	17,281	19,358	21,469
Operating Income	(3,244)	1,812	(8,100)	(7,100)	(1,890)	(852)	3,933	11,359	22,603	34,489
Interest Expense	(1,495)	(749)	(7)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
Other	0	122	45	0	0	0	0	0	0	0
Warrant Charge	(1,998)	(27,339)	(3,995)	0	0	0	0	0	0	0
Pretax Income	(6,737)	(26,153)	(12,057)	(7,108)	(1,898)	(860)	3,925	11,351	22,595	34,481
Income Tax Expense	0	0	0	0	(664)	(301)	1,374	3,973	7,908	12,068
Net before Minority Interest	(6,737)	(26,153)	(12,057)	(7,108)	(1,234)	(559)	2,551	7,378	14,687	22,413
Minority Interest	1	0	0	0	0	0	0	0	0	0
Net to Common	(6,735)	(26,153)	(12,057)	(7,108)	(1,234)	(559)	2,551	7,378	14,687	22,413
Shares	30,420	43,635	60,300	65,950	67,950	69,950	71,950	73,950	75,950	77,950
EPS	(\$0.22)	(\$0.60)	(\$0.20)	(\$0.11)	(\$0.02)	(\$0.01)	\$0.04	\$0.10	\$0.19	\$0.29

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

	2012	2013	Q1 14	Q2 14	Q3 14	Q4 14 E	2014 E	2015 E	2016 E
Cash	0	5,831	5,373	4,173	10,021	9,214	9,214	7,596	9,894
Due from related party and officers	41	50	42	45	45	0	0	0	0
A/R	0	0	0	16	0	25	25	719	3,699
Inventory	1,231	1,406	1,652	1,733	1,748	1,021	1,021	1,359	2,848
Prepaid Consulting Fees	0	0			4,048	3,542	3,542	1,518	0
Prepaid Exp.	10	458	241	251	175	102	102	136	285
Total Current Assets	1,281	7,744	7,309	6,218	16,036	13,903	13,903	11,328	16,726
Patent and Trademark costs	1,353	1,545	1,595	1,728	5,528	5,467	5,467	5,222	4,977
PP&E	6	2,998	2,934	2,952	2,881	2,932	2,932	3,093	3,183
Equity Investment	0	0	0	0	1,393	1,393	1,393	1,718	1,718
Goodwill	0	0	0	0	852	852	852	852	852
Deferred Costs	4	0	0	0	0	0	0	0	0
Total Assets	\$ 2,645	\$ 12,287	\$ 11,930	\$ 11,241	\$ 26,690	\$ 24,547	\$ 24,547	\$ 22,214	\$ 27,456
Bank Loans and N/P	2,686	175	175	175	175	175	175	175	175
A/P	1,411	55	273	728	486	284	284	378	792
Accrued Interest	4	0	0	0	0	0	0	0	0
Accrued Expenses	503	576	700	659	1,834	1,071	1,071	1,426	2,988
Deferred Revenue	0	179	0	0	0	0	0	0	0
Total Current Liabilities	4,603	984	1,148	1,562	2,495	1,529	1,529	1,979	3,955
Warrant Liability & Other	4,173	3,780	623	549	4,068	4,068	4,068	4,068	4,068
Shareholder's Equity	(6,131)	7,523	10,159	9,130	20,126	18,949	18,949	16,166	19,433
Total Liabilities And Equity	\$ 2,645	\$ 12,287	\$ 11,930	\$ 11,241	\$ 26,690	\$ 24,547	\$ 24,547	\$ 22,214	\$ 27,456
Net Income	(6,737)	(26,153)	(5,315)	(1,966)	(2,724)	(2,052)	(12,057)	(7,108)	(1,234)
Depreciation & Amort.	198	144	71	124	130	135	461	584	655
Stock Comp	808	980	357	637	616	375	1,985	2,000	2,500
Other	3,866	29,386	4,126	(74)	68	0	4,120	0	0
Working Capital	100	(501)	(360)	167	347	360	514	1,407	(1,124)
Operating Cash Flow	(1,764)	3,856	(1,121)	(1,111)	(1,563)	(1,182)	(4,977)	(3,117)	798
Acquisition of Patents and trademarks	(163)	(290)	(37)	(52)	(371)	0	(460)	0	0
Capx	0	(3,452)	(46)	(84)	(45)	(125)	(301)	(500)	(500)
Other	0	0	539	(250)	(1,532)	0	(1,244)	0	0
Investing Activities	(163)	(3,743)	455	(386)	(1,948)	(125)	(2,004)	(500)	(500)
Debt	225	(1,810)	0	(3)	0	0	(3)	0	0
Equity	1,468	7,536	202	299	9,359	500	10,359	2,000	2,000
Other	(17)	(9)	7	0	0	0	7	0	0
Financing Activities	1,675	5,717	209	297	9,359	500	10,364	2,000	2,000
Change in Cash	(\$252)	\$ 5,830	(\$457)	(\$1,201)	\$ 5,848	(\$807)	\$ 3,383	(\$1,617)	\$ 2,298

Important Research Disclosures



Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [BUY]	31	70.45	10	32.26
HOLD [NEUTRAL]	10	22.73	1	10.00
SELL [SELL]	1	2.27	1	100.00
NOT RATED [NR]	2	4.55	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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