

**22nd Century Group, Inc. (XXII - \$1.33 - Buy)**  
**Estimate Change**

**COMPANY NOTE**

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

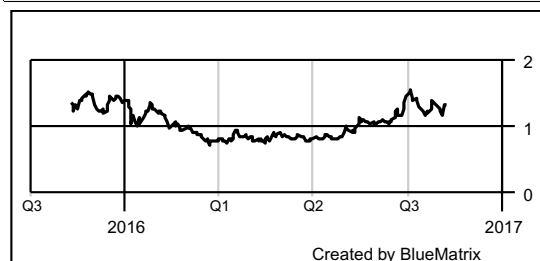
**Sales and trading** 7 p.m. to 7 a.m. ET, (646) 465-9063

Stock Data	11/08/16
Price	\$1.33
52 Week Range	(\$0.71 - \$1.75)
Price Target	\$3.50
Market Cap (mil)	\$120.63
Shares out (mil)	90.70
3-Mo Avg Vol	938,400
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	2.9A	3.6	—
Dec	2.9	3.1	—	5.9	—
YEAR	8.5	12.1	11.8	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)	(0.12)

**One year price history XXII**



**Q3 Better than Expected**

22nd Century reported Q3 results better than we modeled, with revenue of \$3.1 million exceeding our \$2.9 million estimate and a net loss of \$2.7 million equal to our \$2.7 million net loss estimate. The company hosts a conference call today at 4:15 PM Eastern.

Cash at quarter-end was \$5.2 million, but 22nd Century recently raised \$11.4 million (gross) through the sale of 8.5 million shares at \$1.3425 per share a premium of \$0.0625 to the prior day's closing price. The purchase included 4.25 million warrants, exercisable after six months, at a strike price of \$1.45 per share. 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.

Recent news has been very positive for the company and bullish for the shares, which have risen over 70% from the summer lows; we think there is more room for the shares to run given the almost two-years of cash available to fund its strategy which includes seeking a reduced exposure designation for its very-low nicotine (VLN) cigarettes, partnering for a Phase III trial of X-22 for smoking cessation, pursuit of a commercial license with BAT, additional sales of commercial products, and greater utilization of the North Carolina factory for contract manufacturing. We also think the company has an interesting option on the hemp and cannabis market via its partial ownership of, and research collaboration with, Anandia Labs. Our \$3.50 price target is based on a combination of these efforts, but we believe the ultimate potential of any one of these projects could far exceed our current price target.

The likelihood of 22nd Century finding a partner for a Phase III trial of the company's X-22 very-low nicotine (VLN) cigarette for smoking cessation is increased with the recent raise and studies demonstrating the efficacy of VLN therapy. We believe the willingness of physicians to prescribe VLN cigarettes as a smoking cessation tool has been a key concern of potential partners for the phase III study 22nd Century is pursuing and recent surveys will possibly alleviate some of those concerns and makes a partnership more likely. Potential partners include commercial organizations as well as non-profits whose mission includes reduced smoking programs.

We also think the studies and surveys could increase the FDA's willingness to approve 22nd Century's petition for a reduced exposure designation, which was submitted late last year. Approval by the FDA alone could result in significant value creation for the shares.

**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. This has now been before the FDA since the beginning of the year and a 12-month evaluation by the agency is expected. However, one must remember that government agencies move at their own pace and delays are common. That said, this application, if successful, would be ground breaking and would highlight the unique and valuable technology 22nd Century possesses and could result in the company licensing its technology to large tobacco companies with wider distribution.

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: 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. We assume the company is able to monetize its technology in multiple ways, but these are subject to regulatory risk, funding risk and could take longer and cost more than we expect.

**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.  
Actual v. Estimates

<b>Q3 16</b>				
	Actual	Estimates		
Revenue	\$ 3,098	\$ 2,875		7.7%
Cost Of Goods Sold	3,282	2,738		19.9%
Gross Profit	(185)	138		NM
R&D	692	600		15.3%
G&A	1,231	1,750		-29.7%
Sales & marketing	277	251		10.4%
Depreciation & Amort.	211	207		2.0%
Opex	2,411	2,808		-14.1%
Operating Income	\$ (2,596)	\$ (2,671)		2.8%
Interest Expense	(7)	(7)		
Other	(30)	0		
Warrant Charge	(47)	0		
Pretax Income	(2,680)	(2,678)		
Income Tax Expense	0	0		
Net before Minority Interest	(2,680)	(2,678)		
Minority Interest				
Net to Common	\$ (2,680)	\$ (2,678)		
Shares	80,387	80,000		
EPS	\$ (0.03)	\$ (0.03)		

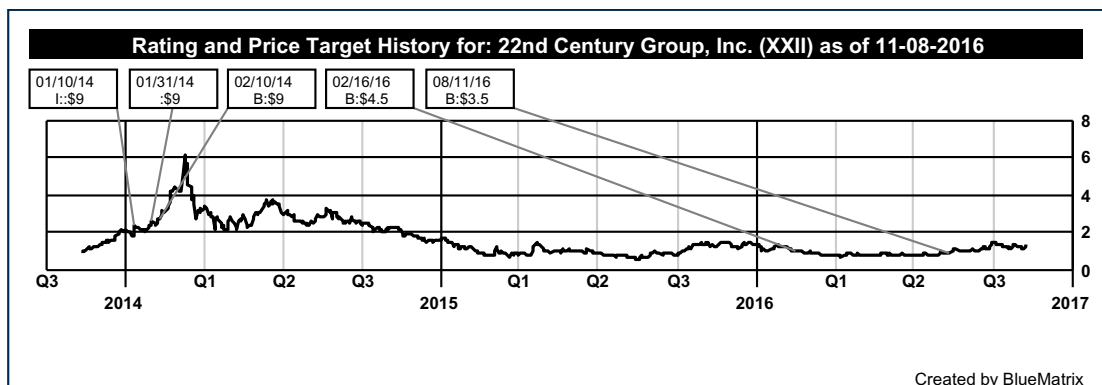
22nd Century Group, Inc  
Income Statement \$ in 000s

	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
<b>Total Current Assets</b>	<b>\$ 7,744</b>	<b>\$ 10,707</b>	<b>\$ 7,154</b>	<b>\$ 9,605</b>	<b>\$ 6,811</b>	<b>\$ 8,669</b>	<b>\$ 17,409</b>	<b>\$ 17,409</b>	<b>\$ 10,321</b>
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
<b>Total Assets</b>	<b>\$ 12,287</b>	<b>\$ 21,954</b>	<b>\$ 18,296</b>	<b>\$ 20,600</b>	<b>\$ 17,691</b>	<b>\$ 19,568</b>	<b>\$ 28,286</b>	<b>\$ 28,286</b>	<b>\$ 21,065</b>
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
<b>Total Current Liabilities</b>	<b>\$ 984</b>	<b>\$ 2,673</b>	<b>\$ 3,162</b>	<b>\$ 3,485</b>	<b>\$ 3,305</b>	<b>\$ 2,987</b>	<b>\$ 3,252</b>	<b>\$ 3,252</b>	<b>\$ 3,742</b>
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
<b>Total Liabilities And Equity</b>	<b>\$ 12,287</b>	<b>\$ 21,954</b>	<b>\$ 18,296</b>	<b>\$ 20,600</b>	<b>\$ 17,691</b>	<b>\$ 19,568</b>	<b>\$ 28,286</b>	<b>\$ 28,286</b>	<b>\$ 21,065</b>
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	<b>\$ 3,856</b>	<b>\$ (6,583)</b>	<b>\$ (7,322)</b>	<b>\$ (2,799)</b>	<b>\$ (3,091)</b>	<b>\$ (2,092)</b>	<b>\$ (2,693)</b>	<b>\$ (10,676)</b>	<b>\$ (7,440)</b>
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	<b>\$ (3,743)</b>	<b>\$ (2,708)</b>	<b>\$ (451)</b>	<b>\$ (2)</b>	<b>\$ (120)</b>	<b>\$ (241)</b>	<b>\$ (125)</b>	<b>\$ (487)</b>	<b>\$ (500)</b>
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	<b>\$ 5,717</b>	<b>\$ 9,863</b>	<b>\$ 5,130</b>	<b>\$ 5,092</b>	<b>\$ -</b>	<b>\$ 4,683</b>	<b>\$ 10,716</b>	<b>\$ 20,491</b>	<b>\$ 200</b>
Change in Cash	<b>\$ 5,830</b>	<b>\$ 572</b>	<b>(\$2,642)</b>	<b>\$ 2,291</b>	<b>(\$3,211)</b>	<b>\$ 2,350</b>	<b>\$ 7,898</b>	<b>\$ 9,328</b>	<b>(\$7,740)</b>

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Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [BUY]	52	66.67	18	34.62
HOLD [NEUTRAL]	20	25.64	1	5.00
SELL [SELL]	6	7.69	0	0.00
NOT RATED [NR]	0	0.00	0	0.00

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**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) - \$1.33 - 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:**

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