

**22nd Century Group, Inc. (XXII - \$0.91 - Buy)**

**Price Target Change**  
**Estimate Change**

**COMPANY NOTE**

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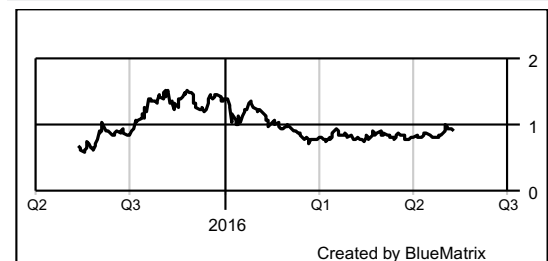
**Sales and trading** 7 a.m. to 7 p.m. ET, (646) 465-9090  
**Sales and trading** 7 p.m. to 7 a.m. ET, (646) 465-9063

Stock Data		08/10/16
Price		\$0.91
52 Week Range		(\$0.56 - \$1.75)
Price Target		\$3.50
Prev Price Target		\$4.50
Market Cap (mil)		\$74.80
Shares out (mil)		82.20
3-Mo Avg Vol		467,983
Cash per share		\$0.09
Total Debt (mil)		\$0.63

Revenues (\$ millions)						
Yr Dec	2015A		2016E		2017E	
	Actual	Curr	Prev	Curr	Prev	
Mar	0.6	3.0A	–	3.1	3.8	
Jun	2.3	2.8A	2.7A	3.3	4.1	
Sep	2.7	2.9	–	3.6	4.1	
Dec	2.9	3.1	3.4	5.9	6.4	
YEAR	8.5	11.8	12.0	15.9	18.4	

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)	0.04	(0.03)	–	
Dec	(0.04)	(0.03)	–	(0.01)	–	
YEAR	(0.16)	(0.15)	(0.16)	(0.12)	(0.14)	

**One year price history XXII**



**Q2 Review. Changes to Model**

22nd Century reported Q2 results better than we modeled, with revenue of \$2.8 million exceeding our \$2.7 million estimate and a net loss of \$3 million less than our \$3.3 million net loss estimate.

We have made some changes in our model and price target to reflect recent events including 1) the positioning of the company in the contract manufacturing market, particularly with respect to recent FDA deeming regulations that could give 22nd Century advantages in the filtered cigar market, but are not likely to impact revenue until next year, 2) delays in the re-launch of the MAGIC product in Europe to the September quarter and the cash level and share count to reflect the recent capital raise. Absent potential milestone payments from BAT the company estimates it has enough cash to fund operations through May 2017.

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.

The company eliminated the near term financing risk it faced by raising \$5 million in a stock and warrant deal. With the cash on hand, plus \$5 million from the raise, the company estimates it has enough cash to fund operations through May 2017.

Recently, in testimony for litigation which is underway, 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.

**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  
Income Statement \$ in 000s

	2013	2014	2015	Q1 16	Q2 16	Q3 16 E	Q4 16 E	2016 E	2017 E
Revenue	\$ 7,278	\$ 529	\$ 8,522	\$ 3,019	\$ 2,828	\$ 2,875	\$ 3,125	\$ 11,847	\$ 15,863
Cost Of Goods Sold	462	498	9,103	2,895	2,969	2,738	2,863	11,464	12,896
Gross Profit	6,817	31	(581)	124	(141)	138	263	383	2,967
R&D	744	1,249	1,669	597	510	600	600	2,307	2,653
G&A	4,107	8,793	7,760	1,847	1,722	1,750	1,750	7,068	7,775
Pre-Mfg. Facility Costs	0	1,177	0	0	0	0	0	0	0
Sales & marketing	9	86	1,358	703	251	251	251	1,456	2,184
Depreciation & Amort.	144	463	676	205	207	207	207	827	909
Opex	5,004	11,768	11,463	3,352	2,690	2,808	2,808	11,658	13,522
Operating Income	\$ 1,812	\$ (11,737)	\$ (12,044)	\$ (3,228)	\$ (2,831)	\$ (2,671)	\$ (2,546)	\$ (11,276)	\$ (10,555)
Interest Expense	(749)	(7)	(22)	(8)	(7)	(7)	(7)	(30)	(8)
Other	122	(30)	889	(87)	(64)	0	0	(152)	0
Warrant Charge	(27,339)	(3,821)	145	71	0	0	0	71	0
Pretax Income	(26,153)	(15,595)	(11,032)	(3,252)	(2,902)	(2,678)	(2,553)	(11,386)	(10,563)
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)	(2,678)	(2,553)	(11,386)	(10,563)
Minority Interest	0	0	0	0	0	0	0	0	0
Net to Common	\$ (26,153)	\$ (15,595)	\$ (11,032)	\$ (3,252)	\$ (2,902)	\$ (2,678)	\$ (2,553)	\$ (11,386)	\$ (10,563)
Shares	43,635	59,993	68,143	74,031	76,024	80,024	82,024	78,026	91,563
EPS	(\$0.60)	(\$0.26)	(\$0.16)	(\$0.04)	(\$0.04)	(\$0.03)	(\$0.03)	(\$0.15)	(\$0.12)

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

	2013	2014	2015	Q1 16	Q2 16	Q3 16 E	Q4 16 E	2016 E	2017 E
Cash	5,831	6,403	3,760	6,052	2,841	4,922	2,570	2,570	2,323
Due from related party and officers	50	46	0	0	0	0	0	0	0
A/R	0	0	51	103	106	308	514	514	528
Settlement proceeds receivable	0	0	0	0	0	0	0	0	0
Inventory	1,406	2,065	2,706	2,921	3,147	3,248	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	741	764	764	892
<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>\$ 9,220</b>	<b>\$ 7,199</b>	<b>\$ 7,199</b>	<b>\$ 7,655</b>
Patent and Trademark costs	1,545	7,078	7,364	7,383	7,385	7,324	7,263	7,263	7,018
PP&E	2,998	2,851	2,556	2,477	2,415	2,445	2,472	2,472	2,532
Equity Investment	0	1,318	1,223	1,135	1,081	1,081	1,081	1,081	1,081
<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>\$ 20,070</b>	<b>\$ 18,014</b>	<b>\$ 18,014</b>	<b>\$ 18,285</b>
Bank Loans and N/P	175	495	309	315	321	321	321	321	321
A/P	55	884	1,283	1,729	1,567	1,618	1,669	1,669	1,949
Accrued Expenses	576	1,294	1,570	1,442	1,416	1,462	1,508	1,508	1,761
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>\$ 3,401</b>	<b>\$ 3,498</b>	<b>\$ 3,498</b>	<b>\$ 4,031</b>
Long-Term Debt	0	605	308	308	308	308	308	308	308
Accrued Severance	0	412	200	145	90	0	0	0	0
Warrant Liability & Other	3,780	3,043	2,898	17	27	27	27	27	27
Shareholder's Equity	7,523	15,220	11,729	16,644	13,962	16,334	14,181	14,181	13,920
<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>\$ 20,070</b>	<b>\$ 18,014</b>	<b>\$ 18,014</b>	<b>\$ 18,285</b>
Net Income	(26,153)	(15,595)	(11,032)	(3,252)	(2,902)	(2,678)	(2,553)	(11,386)	(9,311)
Depreciation & Amort.	144	463	774	181	183	156	160	679	685
Stock Comp	980	2,293	1,326	260	472	350	350	1,432	1,400
Other	29,386	6,740	2,341	74	(154)	(90)	0	(170)	0
Working Capital	(501)	(483)	(731)	(62)	(690)	(231)	(234)	(1,216)	(171)
Operating Cash Flow	<b>\$ 3,856</b>	<b>\$ (6,583)</b>	<b>\$ (7,322)</b>	<b>\$ (2,799)</b>	<b>\$ (3,091)</b>	<b>\$ (2,493)</b>	<b>\$ (2,277)</b>	<b>\$ (10,661)</b>	<b>\$ (7,397)</b>
Acquisition of Patents and trademarks	(290)	(727)	(413)	0	(101)	0	0	(101)	0
Capx	(3,452)	(212)	(37)	(2)	(19)	(125)	(125)	(271)	(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>\$ (125)</b>	<b>\$ (125)</b>	<b>\$ (372)</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	4,700	50	9,842	7,650
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>\$ 4,700</b>	<b>\$ 50</b>	<b>\$ 9,842</b>	<b>\$ 7,650</b>
Change in Cash	<b>\$ 5,830</b>	<b>\$ 572</b>	<b>(\$2,642)</b>	<b>\$ 2,291</b>	<b>(\$3,211)</b>	<b>\$ 2,082</b>	<b>(\$2,352)</b>	<b>(\$1,190)</b>	<b>(\$247)</b>

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Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
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**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 - \$0.91 - 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: 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.

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