

22nd Century Group, Inc. (XXII - \$0.99 - 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	02/19/16
Price	\$0.99
52 Week Range	(\$0.56 - \$1.75)
Price Target	\$4.50
Market Cap (mil)	\$75.25
Shares out (mil)	76.01
3-Mo Avg Vol	516,394
Cash per share	\$0.16
Total Debt (mil)	\$0.62

Q4 Revenues Greater than Expected. Net Loss Higher.

22nd Century reported Q4 revenue that exceeded our estimates, but net loss was greater than we modeled. In the medium term the key to the shares remains the company's application with the FDA for a reduced exposure designation for its Brand A, low-nicotine cigarette.

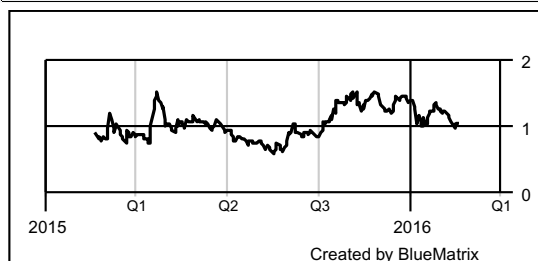
Revenues (\$ millions)				
Yr Dec	2015A	2016E		2017E
	Actual	Curr	Prev	Curr Prev
Mar	0.6	2.6	—	3.8 —
Jun	2.3	2.7	—	4.1 —
Sep	2.7	3.2	—	4.1 —
Dec	2.9	3.8	—	6.4 —
YEAR	8.5	12.3	—	18.4 —

We are optimistic on the company's recent application with the FDA requesting a reduced exposure designation for its VLN cigarettes. The FDA has shown interest in the past encouraging low-nicotine cigarettes and we expect the agency to complete its process by early next year. This could have a significant impact on the value of the company since it would be the first modified risk application approved by the FDA and we believe could result in 22nd Century licensing its technology to large tobacco companies with wider distribution.

EPS (\$)				
Yr Dec	2015A	2016E		2017E
	Actual	Curr	Prev	Curr Prev
Mar	(0.06)	(0.03)	(0.02)	(0.03) —
Jun	(0.02)	(0.03)	—	(0.03) —
Sep	(0.04)	(0.03)	—	(0.03) —
Dec	(0.04)	(0.03)	(0.02)	(0.01) —
YEAR	(0.16)	(0.12)	(0.10)	(0.10) —
P/E	(0.06)	(0.08)	—	(0.10) —

Q4 revenue of \$2.9 million exceeded out \$2.6 million estimate but lower gross profit and opex of \$2.8 million, versus our \$2.1 million estimate resulted in a \$2.9 million net less versus our \$2.0 million estimate. Our revenue estimate for this year is unchanged, at \$12.2 million but our net loss estimate is now \$9.0 million versus our previous estimate of a \$7.8 million loss.

One year price history XXII



The company's monthly burn is \$650,000 per month, or \$7.8 million annually, and excluding BAT milestone payments or partnership payments for X-22, the company estimates it has enough cash through October of this year. We believe the company will extend this date by reducing its burn, but absent commercial license payments from BAT or a sharp ramp in contract manufacturing we expect additional capital will be required in 12-18 months.

RED SUN is now in 600 retail shops in the US, about the same number as last quarter. MAGIC has had a slower start than the company expected and changes to the product will not be complete until the end of this quarter. Consistent with our recent estimate and price target changes, the company indicated commercial product sales will be a less of a value driver for the shares versus approval by the FDA of the company's modified risk application and obtaining a partner for X-22. We continue to expect it will take up to 12 months to receive approval from the FDA and longer to find an X-22 partner.

BAT has yet to exercise any its options on the research license with 22nd Century, but if it does, payments could total \$7 million over a couple of years. If BAT does not exercise its options, the agreement lapses in October of 2017.

Although the FDA process will require patience, there may be benefits outside of the process that accrue to 22nd Century. We expect the company to use its application, and the initial response, to engage potential partners on relationships for the reduced exposure

product and/or other products in the company's portfolio.

Another major effort of management is attracting a research partner to fund Phase III clinical trials for 22nd Century's X-22 smoking cessation product. The company is casting a wide net for partners and using all aspect of its technology to interest potential partners. For instance, funding of X-22 could give a partner preferred access to the modified risk product. This would be valuable to multiple players in the space.

Contract manufacturing will be an important source of revenue and cash flow for the company over the coming quarters and we believe 22nd Century continues to make progress. There are a variety of bids, large and small, in process and this could be a catalyst for the shares in the near term.

We continue to believe 22nd Century's intellectual property, exclusive worldwide rights to all uses for certain genes that control nicotine content in tobacco plants is an asset that will be monetized in multiple ways and has a value far in excess of the current share price. The company is pursuing research partnerships with BAT, selling its own brand of high and low-nicotine cigarettes in the US and Europe, working to find a partner to fund a phase III study of X-22 for smoking cessation, and has filed an application for a reduced risk designation for its Brand A, very-low nicotine (VLN) cigarettes. In addition, the company owns 25% of Anandia, which has rights to genes that control cannabinoid levels in the cannabis plant and 22nd Century has exclusive US rights to four genes required for cannabinoid production in the cannabis plant.

We value X-22/Modified risk at \$3 per share and the combined value of the potential BAT royalty stream and commercial products at \$1.50 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 placed a value on the company's 25% investment in Anandia, nor its exclusive US rights to four genes required for cannabinoid production in the cannabis plant. However, we think this year could be a pivotal year for the cannabis market given the number of potential ballot initiatives to legalize medical and/or recreational marijuana in states such as California, Nevada, New Mexico, Florida, Ohio, and Maine. Marijuana is legal at the state level in states with a combined population of 145 million. States with a combined population approaching 70 million are considering legalizing medical marijuana. If this occurs, states with a population of two-thirds of the total population will have legalized marijuana and we think this will force action at the federal level. This could include rescheduling cannabis, changing IRS tax regulations, changing banking regulations or some combination of the three. Any of these would have a significantly positive impact on the industry and players like Anandia and the value of 22nd Century's investment and US rights to Anandia's technology.

Valuation:

We value X-22/Modified risk at \$3 per share and the combined value of the potential BAT royalty stream and commercial products at \$1.50 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 185 issued patents, 54 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

Q4 15			
	Actual	Estimates	
Revenue	\$ 2,931	\$ 2,550	14.9%
Cost Of Goods Sold	2,921	2,415	20.9%
Gross Profit	10	135	-92.4%
R&D	649	400	62.2%
G&A	1,533	1,293	18.5%
Pre. Mfg. Facility Costs	0	0	NM
Sales & marketing	481	300	60.3%
Depreciation & Amort.	179	150	19.1%
Opex	2,841	2,143	32.6%
Operating Income	\$ (2,831)	\$ (2,008)	-41.0%
Interest Expense	6	(2)	
Other	14	0	
Warrant Charge	(55)	0	
Pretax Income	(2,865)	(2,010)	
Income Tax Expense	0	0	
Net before Minority Interest	(2,865)	(2,010)	
Minority Interest	0	0	
Net to Common	\$ (2,865)	\$ (2,010)	
Shares	70,970	71,299	
EPS	\$ (0.04)	\$ (0.03)	

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

	2013	2014	2015	Q1 16 E	Q2 16 E	Q3 16 E	Q4 16 E	2016 E	2017 E
Revenue	\$ 7,278	\$ 529	\$ 8,522	\$ 2,550	\$ 2,700	\$ 3,175	\$ 3,825	\$ 12,250	\$ 18,363
Cost Of Goods Sold	462	498	9,103	2,355	2,650	3,008	3,493	11,505	15,082
Gross Profit	6,817	31	(581)	195	50	168	333	745	3,282
R&D	744	1,249	1,669	500	500	300	300	1,600	1,840
G&A	4,107	8,793	7,760	1,500	1,500	1,500	1,500	6,000	6,600
Pre-Mfg. Facility Costs	0	1,177	0	0	0	0	0	0	0
Sales & marketing	9	86	1,358	350	350	350	350	1,400	2,100
Depreciation & Amort.	144	463	676	175	175	175	175	700	770
Opex	5,004	11,768	11,463	2,525	2,525	2,325	2,325	9,700	11,310
Operating Income	\$ 1,812	\$ (11,737)	\$ (12,044)	\$ (2,330)	\$ (2,475)	\$ (2,158)	\$ (1,993)	\$ (8,955)	\$ (8,029)
Interest Expense	(749)	(7)	(22)	(2)	(2)	(2)	(2)	(8)	(8)
Other	122	(30)	889	0	0	0	0	0	0
Warrant Charge	(27,339)	(3,821)	145	0	0	0	0	0	0
Pretax Income	(26,153)	(15,595)	(11,032)	(2,332)	(2,477)	(2,160)	(1,995)	(8,963)	(8,037)
Income Tax Expense	0	0	0	0	0	0	0	0	0
Net before Minority Interest	(26,153)	(15,595)	(11,032)	(2,332)	(2,477)	(2,160)	(1,995)	(8,963)	(8,037)
Minority Interest	0	0	0	0	0	0	0	0	0
Net to Common	\$ (26,153)	\$ (15,595)	\$ (11,032)	\$ (2,332)	\$ (2,477)	\$ (2,160)	\$ (1,995)	\$ (8,963)	\$ (8,037)
Shares	43,635	59,993	68,143	75,970	76,470	76,970	77,470	76,720	83,220
EPS	(\$0.60)	(\$0.26)	(\$0.16)	(\$0.03)	(\$0.03)	(\$0.03)	(\$0.03)	(\$0.12)	(\$0.10)

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

	2013	2014	2015	Q1 16 E	Q2 16 E	Q3 16 E	Q4 16 E	2016 E	2017 E
Cash	5,831	6,403	3,760	6,632	4,600	2,620	791	791	1,967
Due from related party and officers	50	46	0	0	0	0	0	0	0
A/R	0	0	51	288	164	308	514	514	528
Settlement proceeds receivable	0	0	0	0	0	0	0	0	0
Inventory	1,406	2,065	2,706	2,934	3,177	3,470	3,869	3,869	4,319
Prepaid Consulting Fees	0	1,979	0	0	0	0	0	0	0
Prepaid Exp.	458	214	710	770	833	911	1,015	1,015	1,133
Total Current Assets	\$ 7,744	\$ 10,707	\$ 7,228	\$ 10,624	\$ 8,774	\$ 7,309	\$ 6,189	\$ 6,189	\$ 7,947
Patent and Trademark costs	1,545	7,078	7,364	7,303	7,242	7,180	7,119	7,119	6,874
PP&E	2,998	2,851	2,556	2,587	2,614	2,637	2,655	2,655	2,682
Equity Investment	0	1,318	1,223	1,223	1,223	1,223	1,223	1,223	1,223
Total Assets	\$ 12,287	\$ 21,954	\$ 18,371	\$ 21,736	\$ 19,853	\$ 18,349	\$ 17,185	\$ 17,185	\$ 18,726
Bank Loans and N/P	175	495	309	309	309	309	309	309	309
A/P	55	884	1,283	1,391	1,506	1,646	1,834	1,834	2,048
Accrued Expenses	576	1,294	1,644	1,783	1,930	2,108	2,350	2,350	2,624
Deferred Revenue	179	0	0	0	0	0	0	0	0
Total Current Liabilities	\$ 984	\$ 2,673	\$ 3,236	\$ 3,483	\$ 3,745	\$ 4,062	\$ 4,493	\$ 4,493	\$ 4,981
Long-Term Debt	0	605	308	308	308	308	308	308	308
Accrued Severance	0	412	200	131	62	0	0	0	0
Warrant Liability & Other	3,780	3,043	2,898	2,898	2,898	2,898	2,898	2,898	2,898
Shareholder's Equity	7,523	15,220	11,729	14,917	12,840	11,080	9,486	9,486	10,539
Total Liabilities And Equity	\$ 12,287	\$ 21,954	\$ 18,371	\$ 21,736	\$ 19,853	\$ 18,349	\$ 17,185	\$ 17,185	\$ 18,726
Net Income	(26,153)	(15,595)	(11,032)	(2,332)	(2,477)	(2,160)	(1,995)	(8,963)	(7,997)
Depreciation & Amort.	144	463	774	155	159	164	168	646	718
Stock Comp	980	2,293	1,326	350	350	350	350	1,400	1,400
Other	29,386	6,740	2,341	(69)	(69)	(62)	0	(200)	0
Working Capital	(501)	(483)	(731)	(278)	80	(197)	(277)	(672)	(95)
Operating Cash Flow	\$ 3,856	\$ (6,583)	\$ (7,322)	\$ (2,173)	\$ (1,957)	\$ (1,905)	\$ (1,754)	\$ (7,789)	\$ (5,974)
Acquisition of Patents and trademarks	(290)	(727)	(413)	0	0	0	0	0	0
Capx	(3,452)	(212)	(37)	(125)	(125)	(125)	(125)	(500)	(500)
Other	0	(1,769)	0	0	0	0	0	0	0
Investing Activities	\$ (3,743)	\$ (2,708)	\$ (451)	\$ (125)	\$ (125)	\$ (125)	\$ (125)	\$ (500)	\$ (500)
Debt	(1,810)	(4)	(508)	0	0	0	0	0	0
Equity	7,536	9,859	5,592	5,170	50	50	50	5,320	7,650
Other	(9)	7	46	0	0	0	0	0	0
Financing Activities	\$ 5,717	\$ 9,863	\$ 5,130	\$ 5,170	\$ 50	\$ 50	\$ 50	\$ 5,320	\$ 7,650
Change in Cash	\$ 5,830	\$ 572	(\$2,642)	\$ 2,872	(\$2,032)	(\$1,980)	(\$1,829)	(\$2,969)	\$ 1,176

Important Research Disclosures



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Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
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