



CHARDAN

Company Update

May 8, 2019

Industrial & Consumer Technology

22nd Century Group, Inc. (XXII - \$2.21 - Buy)

Estimate Change

COMPANY NOTE

JAMES McILREE, CFA, Senior Research Analyst, +1-646-465-9034
jmcilree@chardan.com

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

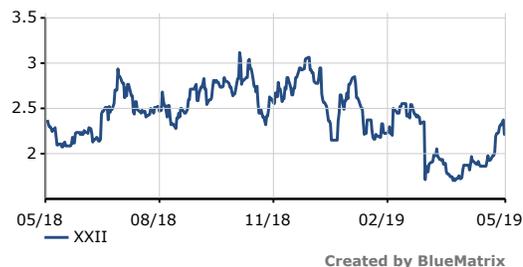
Sales and trading 7 p.m. to 7 a.m. ET, (646) 465-9063

Stock Data	05/07/19
Price	\$2.21
52 Week Range	(\$1.58 - \$3.29)
Price Target	\$11.50
Market Cap (mil)	\$275.46
Shares out (mil)	124.64
3-Mo Avg Vol	1,749,374
Cash (mil)	\$51.9
Total Debt (mil)	\$1.5

Revenues (\$ millions)					
Yr Dec	2018A	2019E		2020E	
	Actual	Curr	Prev	Curr	Prev
YEAR	26.4	21.3	20.0	21.3	20.0

EPS (\$)					
Yr Dec	2018A	2019E		2020E	
	Actual	Curr	Prev	Curr	Prev
YEAR	(0.06)	(0.15)	-	(0.18)	(0.15)
			-		-

One year price history XXII



XXII (Buy, PT\$11.50). Q1 Results

Q1 revenue of \$6.3 million was a bit higher than our estimate, up 3% over the same quarter a year-ago and down from the \$7.1 million reported in Q4 of last year. The company reported an operating loss of \$5.4 million, better than our estimate of a \$6.3 million loss. The \$5.4 million operating loss compares to a \$5.0 million loss in Q1 18 and a \$5.8 million loss in Q4 18.

During the quarter 22nd Century spent \$1.2 million on its MRTP application and will spend another \$400K this quarter. In total, the company will spend \$11.4 million on the application, which could be acted on by the FDA before year end.

EBITDA for the quarter was a loss of \$4.6 million, versus a loss of \$4.1 million in Q1 18 and a loss of \$5.0 million in Q4 18. These amounts were impacted by the MRTP application costs which cease this quarter. Excluding the MRTP costs, adjusted EBITDA in Q1 was a loss of \$3.4 million versus a \$2.8 million loss in Q1 18 and a \$2.3 million loss in Q4 18. We expect the Q1 rate to continue over the coming quarters.

Cash at quarter end was \$52 million, or almost 4 years of cash at the company's current burn rate. However, investments in the hemp market, (see below), will lower the company's cash balances modestly.

Below the operating line, the company recognized a \$3.0 million unrealized gain on the increase in value of its almost 1 million warrants of Aurora Cannabis. Aurora purchased the company's stake in Anandia in Q3 18 for a combination of stock and warrants. All of the shares of Aurora were sold, but 22nd Century retained the warrants. In US dollars, Aurora trades at \$8.60 per share and the exercise price of the warrants is \$7.01 per share.

The company is investing in the hemp market. During the quarter XXII entered into a collaboration and research agreement with Natural Good Medicines (NGM) that calls on NGM to process hemp and cannabis plant lines owned by NGM. 22nd Century has certain exclusive rights to NGM's plant lines. After the quarter ended, 22nd Century entered into a worldwide R&D agreement with KeyGene, that will focus on developing hemp and cannabis plants with specific medical and therapeutic profiles. KeyGene is an AgBiotech company that specializes in crop improvement using molecular breeding. KeyGene believes this is the fastest and most cost-effective path to market for specialized crops.

In exchange for \$6 million over the initial five year term, KeyGene will work exclusively with 22nd Century on the Cannabis Sativa L. plant and will work specifically to create a genetic database, develop improved varieties, create a molecular genetic map of the cannabis plant genome, analyze the genomic sequences of multiple species of hemp/cannabis plants and initiate generation of plant lines with distinctive profiles. This is still early days for 22nd Century and the hemp market but it could generate considerable value as the hemp market grows.

The company continues to work with the FDA on its PMTA and MRTP applications and waits for further movement from the FDA on an NPRM to mandate non-addictive nicotine levels in combustible cigarettes. The FDA has completed inspection of the company's manufacturing facility in North Carolina, the third phase of a four phase process to evaluate 22nd Century's PMTA (pre-market tobacco application) for a very-low nicotine cigarette. Shortly after the PMTA was filed in December of 2018, 22nd Century filed an MRTP, Modified Risk Tobacco Product application requesting authorization to claim on packaging and in advertising that its cigarettes contain 0.5mg of nicotine per gram of tobacco. Applications are supposed to be evaluated in 180 days, but questions from the FDA and amendments submitted by the petitioner can extend that time considerably.

We believe these applications will be an important tool the FDA can use to justify and support the NPRM we expect to be issued. The FDA has been consistent and clear that it wants to implement a rule that would lower nicotine in combustible cigarettes to non-addictive levels. One major objection industry has made is a claim that technology is not available to accomplish this objective. Approval of 22nd Century's PMTA and MRTP would counter this objection and justify the FDA's rule change.

As the FDA moves down the path of mandating non-addictive levels of nicotine in cigarettes, 22nd Century could have a large time-to-market advantage over current providers in the market as well as demonstrate it has technology available others need to comply with the very-low nicotine mandate. There is tremendous institutional momentum in the FDA's decade's long endeavor to reduce cigarette smoking. While the NPRM has been delayed due to the recent resignation of FDA Commissioner Gottlieb, we expect the process to move forward this year.

Valuation:

Our twelve-month price target of \$11.50 is based on the company garnering royalty revenue for its technology on 10% of the US market share in the next five years, discounted at a 20% annual rate.

Risks to achievement of target price:

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.

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

Q1 19			
	Actual	Estimates	
Revenue	\$ 6,294	\$ 6,000	4.9%
Cost Of Goods Sold	6,397	5,900	8.4%
Gross Profit	(103)	100	NM
R&D	2,451	3,682	-33.4%
G&A	2,243	2,109	6.4%
Sales & marketing	232	249	-6.9%
Depreciation & Amort.	351	321	9.1%
Opex	5,276	6,361	-17.0%
Operating Income	\$ (5,379)	\$ (6,261)	14.1%
Interest Expense	262	(2)	
Other	3,045		
Warrant Charge	0		
Pretax Income	(2,073)	(6,263)	
Income Tax Expense	0	0	
Net before Minority Interest	(2,073)	(6,263)	
Minority Interest	0		
Net to Common	\$ (2,073)	\$ (6,263)	
Shares	124,645	124,668	
EPS	\$ (0.02)	\$ (0.05)	

Required Research Disclosures



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Distribution of Ratings/IB Services Chardan Capital Markets

Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [BUY]	69	67.65	20	28.99
HOLD [NEUTRAL]	25	24.51	2	8.00
SELL [SELL]	0	0.00	0	0.00
NOT RATED [NR]	8	7.84	0	0.00

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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.

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) - \$2.21 - Buy

Price Target \$11.50

VALUATION:

Our twelve-month price target of \$11.50 is based on the company garnering royalty revenue for its technology on 10% of the US market share in the next five years, discounted at a 20% annual rate.

RISKS TO ACHIEVEMENT OF TARGET PRICE:

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.

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