



CHARDAN

Company Update

August 5, 2019

Industrial & Consumer Technology

22nd Century Group, Inc. (XXII - \$1.43 - Buy)

COMPANY NOTE

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

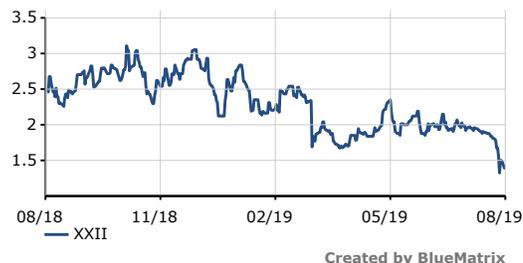
Sales and trading 7 p.m. to 7 a.m. ET, (646) 465-9063

| Stock Data       | 08/05/19          |
|------------------|-------------------|
| Price            | \$1.43            |
| 52 Week Range    | (\$1.12 - \$3.29) |
| Price Target     | \$11.50           |
| Market Cap (mil) | \$178.24          |
| Shares out (mil) | 124.64            |
| 3-Mo Avg Vol     | 1,244,113         |
| 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  | -    | 21.3  | -    |

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

One year price history XXII



XXII (Buy, PT\$11.50). New CEO with Extensive Tobacco Experience.

22nd Century announced the appointment of Cliff Fleet as CEO. Mr. Fleet has been a strategic advisor to the company since December 2018 and from 2013 to 2017 he was President and CEO of Philip Morris USA.

We expect Mr. Fleet to continue the company's pursuit of a leadership position in the very-low nicotine combustible cigarette market. Recently, the FDA announced the availability for public comment on 22nd Century's MRTPA's for VLN King and VLN Menthol King, combustible cigarettes. The comment period will end at least 180 days from now and at least 30 days after the final documents from the applications are made available to the public. An NPRM mandating non-addictive levels of nicotine in combustible cigarettes could be released by the FDA as early as October, although timelines with Government proceedings are frequently pushed to the right.

We also expect the company to be more aggressive in pursuing opportunities in the hemp/cannabis space. The company has 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. In addition, 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.

22nd Century has scheduled an update call for Thursday August 8th at 4PM Eastern.

At the end of Q1, the company had \$52 million in cash, or almost 4 years of cash at the company's current burn rate. However, investments in the hemp market will lower the company's cash balances modestly and we think a substantial cash balance is necessary in order to combat the likely delaying tactics of the tobacco industry when rule changes are implemented by the FDA.

**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.

## Required Research Disclosures



### Distribution of Ratings/IB Services Chardan Capital Markets

| Rating         | Count | Percent | IB Serv./Past 12 Mos. |         |
|----------------|-------|---------|-----------------------|---------|
|                |       |         | Count                 | Percent |
| BUY [BUY]      | 70    | 74.47   | 16                    | 22.86   |
| HOLD [NEUTRAL] | 24    | 25.53   | 0                     | 0.00    |
| SELL [SELL]    | 0     | 0.00    | 0                     | 0.00    |
| NOT RATED [NR] | 0     | 0.00    | 0                     | 0.00    |

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#### RATINGS

**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) - \$1.43 - Buy)

Price Target \$11.50

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#### 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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