UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): February 28, 2019

INTREXON CORPORATION
(Exact Name of Registrant as Specified in Charter)

Virginia	**001-36042**	**26-0084895**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

20374 Seneca Meadows Parkway, Germantown, Maryland 20876
(Address of Principal Executive Offices) (Zip Code)

(301) 556-9900
(Registrant's Telephone Number, including area code)

N/A
(Former Name or Former Address, if change since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 or Rule 12b-2 of the Securities Exchange Act of 1934.

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02 Results of Operations and Financial Condition.

Attached as Exhibit 99.1 is a copy of a press release of Intrexon Corporation, dated February 28, 2019, reporting its financial results for the quarter and year ended December 31, 2018.

This information, including the Exhibit attached hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, except as shall be expressly set forth by specific reference in such filing.

Item 7.01 Regulation FD Disclosure.

On February 28, 2019, Intrexon Corporation provided slides to accompany its earnings presentation. A copy of the slides is furnished as Exhibit 99.2 hereto.

This information, including the Exhibit attached hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, except as shall be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Press release dated February 28, 2019.
99.2	Slide presentation of Intrexon Corporation dated February 28, 2019.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Intrexon Corporation

By: /s/ Rick L. Sterling
Rick L. Sterling
Chief Financial Officer

Dated: February 28, 2019

Intrexon Reports 2018 Fourth Quarter and Year End Financial Results

– Quarterly GAAP revenues of $43.2 million and net loss attributable to Intrexon of $340.5 million including non-cash charges of $311.0 million –

– Previously Announced Reacquisition of Oncology Rights Drives $280M Quarterly R&D Expense –

– Quarterly Adjusted EBITDA of $(27.2) million –

GERMANTOWN, MD, February 28, 2019 – Intrexon Corporation (NASDAQ: XON), a leader in the engineering and industrialization of biology to improve the quality of life and health of the planet, today announced its fourth quarter and full year financial results for 2018.

Recent Business Highlights:

- Precigen, Inc., a wholly owned subsidiary of Intrexon, announced the US Food and Drug Administration (FDA) cleared the Investigational New Drug (IND) application for PRGN-3006, an investigational drug for patients with relapsed or refractory acute myeloid leukemia (AML) and higher risk myelodysplastic syndrome (MDS). PRGN-3006 is an autologous chimeric antigen receptor T-cell (CAR-T) therapeutic candidate utilizing Precigen's transformative UltraCAR-T™ platform, which reduces manufacturing time to within two days following non-viral gene transfer;
- Precigen announced the FDA cleared the IND application for PRGN-3005 UltraCAR-T™, an investigational drug using CAR-T cells to treat advanced-stage platinum-resistant ovarian cancer patients and the first UltraCAR-T™ candidate targeting solid tumors to enter the clinic;
- Following the previously reported reacquisition of oncology rights from Ziopharm in October 2018, Precigen and Intrexon entered into an agreement with Merck KGaA, Darmstadt, Germany, a leading science and technology company, and its wholly owned subsidiary Ares Trading, pursuant to which Intrexon assumed rights from Ares Trading under the existing agreement among Precigen, Ares Trading and Ziopharm relating to the development of CAR-T therapies. In addition to receiving 20,640,119 shares of Intrexon common stock, the agreement also included a further $25 million investment in the Company. In return, Merck KGaA, Darmstadt, Germany, received a $25 million convertible note, providing the option to receive either Precigen or Intrexon common stock;
- Xogenex, a majority owned subsidiary of Intrexon, has completed an evaluation of three advanced heart failure patients who were administered INXN-4001, an investigational, non-viral, plasmid-based gene drug candidate designed to drive expression of three cardiac effector genes involved in heart failure, in a Phase 1 clinical trial. The data reflected the patients' status six-months after being given the INXN-4001 and appears to indicate that the drug material and the delivery process were both well tolerated by the patients. Preliminary review of the data suggests improvements in several cardiac performance parameters;
- Intrexon's methane bioconversion platform is being employed to produce 2,3 BDO from natural gas and has achieved 80% of the goal for the first small-scale plant operations;
- Detailed engineering design for Intrexon's first-of-a-kind small-scale methane bioconversion facility to 2,3 BDO is currently being bid out, discussions with partners for sites are ongoing. The overall schedule is still consistent as the sites under consideration are brownfield which require less engineering time than the original greenfield concept;
- Exemplar Genetics, a wholly owned subsidiary of Intrexon, announced the launch of a joint venture with the Mayo Clinic, which is focused on the development of a high-quality source of human liver cells or hepatocytes (HHCs);

- Trans Ova Genetics, a wholly owned subsidiary of Intrexon, continues to expand and improve its herd genetics with two Jersey heifers ranking 2nd and 9th in the world and 15 bulls that rank at the top of the global Holstein bull population;
- EnviroFlight, Intrexon's joint venture with Darling Ingredients Inc., opened the very first commercial Black Soldier Fly (BSFL) facility, in Maysville, Kentucky in November 2018. The production plant has the ability to produce 900 tonnes/year of dried BSFL, and orders for product from the new facility account for one-third of the anticipated annual output;
- Okanagan Specialty Fruits, a wholly owned subsidiary of Intrexon, harvested more than 2,100 bins of Arctic® apples in their 2018 harvest, which are available at select retailers as fresh sliced apples and ApBitz™ dehydrated apple snacks, and is planning to plant up to 1,000,000 trees in the spring of 2019;
- Intrexon entered into a strategic licensing agreement with Next Green Wave Holdings Inc. to utilize Intrexon's Botticelli™ next generation plant propagation platform to enable rapid production of Next Green Wave's proprietary cannabis cultivars for the California market;
- Oxitec, Ltd., a wholly owned subsidiary of Intrexon, announced that it will be transitioning from its 1st generation self-limiting Friendly™ Aedes aegypti mosquito (OX513A) to a new Friendly™ *Aedes* mosquito (OX5034) that uses Oxitec's 2nd generation technology, allowing the company to focus on advancing its entire mosquito and crop pest portfolios using this next-generation platform; and
- Oxitec has secured two multi-year development agreements with a partner to develop solutions for pest problems beyond the mosquito, which have the potential for application in key markets globally.

Fourth Quarter 2018 Financial Highlights:

- Total revenues of $43.2 million, a decrease of 44% from the fourth quarter of 2017;
- Net loss of $340.5 million attributable to Intrexon, or $(2.59) per basic share, including non-cash charges of $311.0 million;
- Adjusted EBITDA of $(27.2) million, or $(0.21) per basic share; and
- Cash, cash equivalents, and short-term investments totaled $222.5 million and the value of common equity securities totaled $2.2 million at December 31, 2018.

Full Year 2018 Financial Highlights:

- Total revenues of $160.6 million, a decrease of 31% from the full year ended December 31, 2017;
- Net loss of $509.3 million attributable to Intrexon, or $(3.93) per basic share, including non-cash charges of $420.0 million; and
- Adjusted EBITDA of $(102.5) million, or $(0.79) per basic share.

"With several of the most ambitious stated objectives at the time of our IPO now achieved, most notably with our work in UltraCAR-T™ and in natural gas upgrading, our team is more energized than ever to establish its tangible value in the world," commented Randal J. Kirk, Chairman and Chief Executive Officer of Intrexon. "We expect to achieve this initially through independent equitization and/or monetization events at Precigen and from our Methane Bioconversion Platform, while other business units of our company may also find higher values independently of our company."

Mr. Kirk concluded, "It has always been our purpose to be an enabler of enterprise that is built on engineered biology and not to create an industrial conglomerate. In this we have succeeded greatly so we look forward to seeing some of our bold enterprises making their marks in the world. We are confident in our prospects to achieve this and that we have adequate cash resources to fuel us to these realizations."

Fourth Quarter 2018 Financial Results Compared to Prior Year Period

Total revenues decreased $33.8 million, or 44%, from the quarter ended December 31, 2017. Collaboration and licensing revenues decreased $30.9 million from the quarter ended December 31, 2017 due to (i) the mutual termination in 2017 of the Company's second exclusive channel collaboration (ECC) with Ziopharm for the treatment of graft-versus-host disease, (ii) a decrease in research and development services for certain of the Company's ECCs as the Company redeployed certain resources towards supporting prospective new platforms and partnering opportunities and began to focus more on the further development of relationships and structures that will provide the Company with more control and ownership over the development process and commercialization path, including programs where the Company reacquired the previously licensed technology rights in 2018, and (iii) a decrease in research and development services performed by the Company for collaborators upon the transition of program execution to its collaborators. Product revenues decreased $2.8 million or 36% primarily due to lower milk prices which resulted in lower customer demand for cows and cloned products. Gross margin on products declined in the current period as a result of decreased sales. Gross margin on services improved in the current period as a result of pricing changes and an increase in the number of embryos produced per bovine *in vitro* fertilization cycle due to improved production results.

Research and development expenses increased $242.0 million, or 628%, and include $228.0 million of expenses related to in-process research and development reacquired from former collaborators. Selling, general and administrative (SG&A) expenses decreased $7.9 million, or 24%. This decrease was primarily due to lower compensation expenses due to adjustments to previously accrued compensation expenses for performance and retention incentives for SG&A employees in 2018. The Company recorded an impairment charge of $60.5 million in the fourth quarter of 2018 due to a change in the Company's business strategy for commercializing the Oxitec technology targeting the *Aedes aegypti* mosquito.

Full Year 2018 Financial Results Compared to Prior Year Period

Total revenues decreased $70.4 million, or 31%, from the year ended December 31, 2017. Collaboration and licensing revenues decreased $68.7 million from the year ended December 31, 2017 primarily due to (i) the mutual termination in 2017 of the Company's second ECC with Ziopharm for the treatment of graft-versus-host disease, (ii) a decrease in research and development services for certain of the Company's ECCs as the Company redeployed certain resources towards supporting prospective new platforms and partnering opportunities and began to focus more on the further development of relationships and structures that provide the Company with more control and ownership over the development process and commercialization path, including programs where the Company reacquired the previously licensed technology rights in 2018, and (iii) a decrease in research and development services performed by the Company for collaborators upon the transition of program execution to its collaborators. Product revenues decreased $5.1 million or 15% primarily due to lower milk prices which in turn resulted in lower customer demand for live calves, cows previously used in production, and cloned products. Gross margin on products declined in the current period as a result of lower product sales and increased operating costs associated with new product offerings and cloned products. The increase in service revenues of $1.8 million, or 4%, as well as the gross margin thereon relates to pricing changes and an increase in the number of embryos produced per bovine *in vitro* fertilization cycle due to improved production results.

Research and development expenses increased $261.4 million, or 183%, and include $236.7 million of expenses related to in-process research and development reacquired from former collaborators. SG&A expenses decreased $8.3 million, or 6%, from the prior period. Legal and professional fees decreased $7.5 million primarily due to (i) decreased legal fees associated with ongoing litigation and (ii) decreased fees incurred for regulatory and other consultants. The Company recorded an impairment charge of $60.5 million in the fourth quarter of 2018 due to a change in the Company's business strategy for commercializing the Oxitec technology targeting the *Aedes aegypti* mosquito.

Total other income (expense), net, decreased $41.5 million, or 185%. This decrease was primarily attributable to losses on the Company's investment in Ziopharm preferred stock prior to returning this investment to Ziopharm in the fourth quarter of 2018, as well as an increase in interest expense related to the 3.5% convertible notes issued by the Company in the third quarter of 2018.

Based on Intrexon's financial position, including its cash, cash equivalents and short-term investments of $224 million at December 31, 2018, in connection with issuing its financial statements Intrexon expects to include a conclusion in its Form 10-K that there is substantial doubt about its ability to continue as a going concern.

Conference Call and Webcast

The Company will host a conference call today Thursday, February 28th, at 5:30 PM ET to discuss the fourth quarter and full year 2018 financial results and provide a general business update. The conference call may be accessed by dialing 1-888-317-6003 (Domestic US), 1-866-284-3684 (Canada), and 1-412-317-6061 (International) and providing the number 4443860 to join the Intrexon Corporation Call. Participants may also access the live webcast through Intrexon's website in the Investors section at http://investors.dna.com/events.

About Intrexon Corporation

Intrexon Corporation (NASDAQ: XON) is Powering the Bioindustrial Revolution with Better DNA™ to create biologically-based products that improve the quality of life and the health of the planet. Intrexon's integrated technology suite provides its partners across diverse markets with industrial-scale design and development of complex biological systems delivering unprecedented control, quality, function, and performance of living cells. We call our synthetic biology approach Better DNA®, and we invite you to discover more at www.dna.com or follow us on Twitter at @Intrexon, on Facebook, and LinkedIn.

Non-GAAP Financial Measures

This press release presents Adjusted EBITDA and Adjusted EBITDA per share, which are non-GAAP financial measures within the meaning of applicable rules and regulations of the Securities and Exchange Commission (SEC). For a reconciliation of these measures to the most directly comparable financial measure calculated in accordance with generally accepted accounting principles and for a discussion of the reasons why the Company believes that these non-GAAP financial measures provide information that is useful to investors see the tables below under "Reconciliation of GAAP to Non-GAAP Measures." Such information is provided as additional information, not as an alternative to Intrexon's consolidated financial statements presented in accordance with GAAP, and is intended to enhance an overall understanding of the Intrexon's current financial performance.

Trademarks

Intrexon, Arctic, Botticelli, UltraCAR-T, Friendly, Powering the Bioindustrial Revolution with Better DNA, and Better DNA are trademarks of Intrexon and/or its affiliates. Other names may be trademarks of their respective owners.

Safe Harbor Statement

Some of the statements made in this press release are forward-looking statements that involve a number of risks and uncertainties and are made pursuant to the Safe Harbor Provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements made in this press release include, but are not limited to, statements regarding clinical and pre-clinical development activities by Intrexon and its collaborators, commercial and business development plans and the submission of regulatory filings. These forward-looking statements are based upon Intrexon's current expectations and projections about future events and generally relate to Intrexon's plans, objectives and expectations for the development of Intrexon's business. Although management believes that the plans and objectives reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties and actual future results may be materially different from the plans, objectives and expectations expressed in this press release. These risks and uncertainties include, but are not limited to, (i) Intrexon's strategy and overall approach to its business model, including its ability to successfully enter into optimal strategic relationships with its subsidiaries and operating companies that Intrexon may form in the future, its ability to develop prospective new platforms

and partnering opportunities, and its ability to exercise more control and ownership over the development process and commercialization path; (ii) Intrexon's ability to successfully enter new markets or develop additional products, whether with its collaborators or independently; (iii) actual or anticipated variations in Intrexon's operating results; (iv) actual or anticipated fluctuations in Intrexon's competitors' or its collaborators' operating results or changes in their respective growth rates; (v) Intrexon's cash position; (vi) market conditions in Intrexon's industry; (vii) the volatility of Intrexon's stock price; (viii) Intrexon's ability, and the ability of its collaborators, to protect Intrexon's intellectual property and other proprietary rights and technologies; (ix) Intrexon's ability, and the ability of its collaborators, to adapt to changes in laws or regulations and policies; (x) the outcomes of pending or future litigation; (xi) the rate and degree of market acceptance of any products developed by a collaborator under an ECC or through a joint venture; (xii) Intrexon's ability to retain and recruit key personnel; (xiii) Intrexon's expectations related to the use of proceeds from its public offerings and other financing efforts; (xiv) Intrexon's estimates regarding expenses, future revenue, capital requirements and needs for additional financing; and (xv) Intrexon's expectations relating to its subsidiaries and other affiliates. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Intrexon's actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Intrexon's Annual Report on Form 10-K, as well as discussions of potential risks, uncertainties, and other important factors in Intrexon's subsequent filings with the SEC. All information in this press release is as of the date of the release, and Intrexon undertakes no duty to update this information unless required by law.

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Intrexon Corporation and Subsidiaries
Consolidated Balance Sheets
(Unaudited)

(Amounts in thousands)	December 31, 2018	December 31, 2017
Assets		
Current assets		
Cash and cash equivalents	$ 102,768	$ 68,111
Restricted cash	6,987	6,987
Short-term investments	119,688	6,273
Equity securities	384	5,285
Receivables		
Trade, net	21,195	19,775
Related parties, net	4,129	17,913
Other, net	2,754	2,153
Inventory	21,447	20,493
Prepaid expenses and other	6,131	7,057
Total current assets	285,483	154,047
Equity securities, noncurrent	1,798	9,815
Investments in preferred stock	191	161,225
Property, plant and equipment, net	128,874	112,674
Intangible assets, net	129,291	232,877
Goodwill	149,585	153,289
Investments in affiliates	18,859	18,870
Other assets	2,096	4,054
Total assets	$ 716,177	$ 846,851
Current liabilities		
Accounts payable	$ 13,420	$ 8,701
Accrued compensation and benefits	10,687	6,474
Other accrued liabilities	20,620	21,080
Deferred revenue	15,554	42,870
Lines of credit	466	233
Current portion of long-term debt	559	502
Related party payables	256	313
Total current liabilities	61,562	80,173
Long-term debt, net of current portion	211,235	7,535
Deferred revenue, net of current portion	54,210	193,527
Deferred tax liabilities, net	7,213	15,620
Other long-term liabilities	3,235	3,451
Total liabilities	337,455	300,306
Commitments and contingencies		
Total equity		
Common stock	—	—
Additional paid-in capital	1,722,012	1,397,005
Accumulated deficit	(1,330,545)	(847,820)
Accumulated other comprehensive loss	(28,612)	(15,554)
Total Intrexon shareholders' equity	362,855	533,631
Noncontrolling interests	15,867	12,914
Total equity	378,722	546,545
Total liabilities and total equity	$ 716,177	$ 846,851

Intrexon Corporation and Subsidiaries
Consolidated Statements of Operations
(Unaudited)

(Amounts in thousands, except share and per share data)	Three months ended December 31, 2018	Three months ended December 31, 2017	Year ended December 31, 2018	Year ended December 31, 2017
Revenues				
Collaboration and licensing revenues	$ 25,247	$ 56,195	$ 76,869	$ 145,579
Product revenues	4,979	7,809	28,528	33,589
Service revenues	12,040	12,721	52,419	50,611
Other revenues	919	303	2,758	1,202
Total revenues	43,185	77,028	160,574	230,981
Operating Expenses				
Cost of products	7,652	7,638	35,698	33,263
Cost of services	6,462	7,720	27,589	29,525
Research and development	280,514	38,544	404,586	143,207
Selling, general and administrative	24,935	32,845	137,807	146,103
Impairment loss	60,504	16,773	60,504	16,773
Total operating expenses	380,067	103,520	666,184	368,871
Operating loss	(336,882)	(26,492)	(505,610)	(137,890)
Other Income (Expense), Net				
Unrealized and realized appreciation (depreciation) in fair value of equity securities and preferred stock, net	(2,635)	(6,654)	(30,200)	2,586
Interest expense	(4,290)	(113)	(8,530)	(611)
Interest and dividend income	1,761	5,048	19,084	19,485
Other income (expense), net	59	(3,440)	630	1,013
Total other income (expense), net	(5,105)	(5,159)	(19,016)	22,473
Equity in net loss of affiliates	(1,728)	(3,010)	(11,608)	(14,283)
Loss before income taxes	(343,715)	(34,661)	(536,234)	(129,700)
Income tax benefit	1,993	716	21,528	2,880
Net loss	$ (341,722)	$ (33,945)	$ (514,706)	$ (126,820)
Net loss attributable to the noncontrolling interests	1,257	6,679	5,370	9,802
Net loss attributable to Intrexon	$ (340,465)	$ (27,266)	$ (509,336)	$ (117,018)
Net loss attributable to Intrexon per share, basic and diluted	$ (2.59)	$ (0.23)	$ (3.93)	$ (0.98)
Weighted average shares outstanding, basic and diluted	131,532,851	120,763,034	129,521,731	119,998,826

Intrexon Corporation and Subsidiaries
Reconciliation of GAAP to Non-GAAP Measures
(Unaudited)

Adjusted EBITDA and Adjusted EBITDA per share. To supplement Intrexon's financial information presented in accordance with U.S. generally accepted accounting principles ("GAAP"), Intrexon presents Adjusted EBITDA and Adjusted EBITDA per share. A reconciliation of Adjusted EBITDA to net income or loss attributable to Intrexon under GAAP appears below. Adjusted EBITDA is a non-GAAP financial measure that Intrexon calculates as net income or loss attributable to Intrexon adjusted for income tax expense or benefit, interest expense, depreciation and amortization, stock-based compensation, shares issued as compensation for services, impairment loss, expense for in-process research and development reacquired from former collaborators, bad debt expense, litigation expense, realized and unrealized appreciation or depreciation in the fair value of equity securities and preferred stock, and equity in net loss of affiliates. Adjusted EBITDA and Adjusted EBITDA per share are key metrics for Intrexon's management and Board of Directors for evaluating the Company's financial and operating performance, generating future operating plans and making strategic decisions about the allocation of capital. Intrexon's management and Board of Directors believe that Adjusted EBITDA and Adjusted EBITDA per share are useful to understand the long-term performance of Intrexon's core business and facilitate comparisons of the Company's operating results over multiple reporting periods. Intrexon is providing this information to investors and others to assist them in understanding and evaluating the Company's operating results in a manner similar to how its management and Board of Directors evaluate operating results (except for the impact of the change in deferred revenue related to upfront and milestone payments, which is adjusted in the measures evaluated by management and the Board of Directors as discussed below). While Intrexon believes that its non-GAAP financial measures are useful in evaluating its business, and may be of use to investors, this information should be considered supplemental in nature and not as a substitute for the related financial information prepared in accordance with GAAP. In addition, these non-GAAP financial measures may not be the same as non-GAAP financial measures presented by other companies. Adjusted EBITDA and Adjusted EBITDA per share are not measures of financial performance under GAAP, and are not intended to represent cash flows from operations nor earnings per share under GAAP and should not be used as an alternative to net income or loss as an indicator of operating performance or to represent cash flows from operating, investing or financing activities as a measure of liquidity. Intrexon compensates for the limitations of Adjusted EBITDA and Adjusted EBITDA per share by using them only to supplement the Company's GAAP results to provide a more complete understanding of the factors and trends affecting the Company's business. Adjusted EBITDA and Adjusted EBITDA per share have limitations as an analytical tool and you should not consider them in isolation or as a substitute for analysis of Intrexon's results as reported under GAAP.

In addition to the reasons stated above, which are generally applicable to each of the items Intrexon excludes from its non-GAAP financial measure, Intrexon believes it is appropriate to exclude certain items from the definition of Adjusted EBITDA for the following reasons:

- Interest expense may be subject to changes in interest rates which are beyond Intrexon's control;
- Depreciation of Intrexon's property and equipment and amortization of acquired identifiable intangibles can be affected by the timing and magnitude of business combinations and capital asset purchases;
- Stock-based compensation expense is a noncash expense and may vary significantly based on the timing, size and nature of awards granted and also because the value is determined using formulas which incorporate variables, such as market volatility;
- Shares issued as compensation for services and bad debt expense are noncash expenses which Intrexon excludes in evaluating its financial and operating performance;
- Impairment loss is a noncash expense which represents the write down of the book value of acquired goodwill and intangible assets when fair value is determined to be less than book value. These charges are nonrecurring and may vary significantly based on economic, regulatory, political and other circumstances;
- Expense for in-process research and development reacquired from former collaborators is a noncash expense which is expected to be an infrequent item and may vary significantly based on the scope of the repurchased rights;
- Unrealized and realized appreciation or depreciation in the fair value of securities which Intrexon holds in its collaborators may be significantly impacted by market volatility and other factors which are outside of the Company's control in the short term and Intrexon intends to hold these securities over the long term, except as otherwise disclosed; and

- Equity in net loss of affiliate reflects Intrexon's proportionate share of the income or loss of entities over which the Company has significant influence, but not control, and accounts for using the equity method of accounting. Intrexon believes excluding the impact of such losses or gains on these types of strategic investments from its operating results is important to facilitate comparisons between periods.

The following table presents a reconciliation of net loss attributable to Intrexon to EBITDA and also to Adjusted EBITDA, as well as the calculation of Adjusted EBITDA per share, for each of the periods indicated:

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
	(In thousands)			
Net loss attributable to Intrexon	$ (340,465)	$ (27,266)	$ (509,336)	$ (117,018)
Interest expense	4,277	95	8,473	546
Income tax benefit	(1,993)	(716)	(21,528)	(2,880)
Depreciation and amortization	7,680	8,139	32,220	30,641
EBITDA	$ (330,501)	$ (19,748)	$ (490,171)	$ (88,711)
Stock-based compensation	7,923	9,612	36,169	41,525
Shares issued as payment for services	2,291	2,678	10,695	11,118
Impairment loss	60,504	11,326	60,504	11,326
Expense for in-process research and development reacquired from former collaborators	228,027	—	236,748	—
Bad debt expense	182	124	1,779	1,217
Unrealized and realized (appreciation) depreciation in fair value of equity securities and preferred stock, net	2,635	6,654	30,200	(2,586)
Equity in net loss of affiliates	1,728	3,010	11,608	14,283
Adjusted EBITDA	$ (27,211)	$ 13,656	$ (102,468)	$ (11,828)
Weighted average shares outstanding, basic	131,532,851	120,763,034	129,521,731	119,998,826
Weighted average shares outstanding, diluted	131,532,851	121,139,803	129,521,731	119,998,826
Adjusted EBITDA per share, basic	$ (0.21)	$ 0.11	$ (0.79)	$ (0.10)
Adjusted EBITDA per share, diluted	$ (0.21)	$ 0.11	$ (0.79)	$ (0.10)

Fourth Quarter 2018 Business Update

28 February 2019

Forward Looking Statements

Safe Harbor Statement

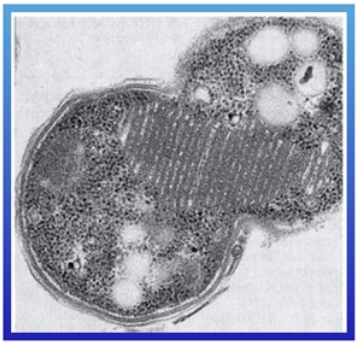
Some of the statements made in this presentation are forward-looking statements that involve a number of risks and uncertainties and are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based upon Intrexon's current expectations and projections about future events and generally relate to Intrexon's plans, objectives and expectations for the development of Intrexon's business, discussion of anticipated clinical trials and future collaborations. Although management believes that the plans and objectives reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties and actual future results may be materially different from the plans, objectives and expectations expressed in this presentation. These risks and uncertainties include, but are not limited to, (i) Intrexon's strategy and overall approach to its business model and its ability to exercise more control and ownership over the development process and commercialization path; (ii) Intrexon's ability to successfully enter new markets or develop additional products, whether with its collaborators or independently; (iii) Intrexon's ability to successfully enter into optimal strategic relationships with its subsidiaries and operating companies that it may form in the future; (iv) actual or anticipated variations in Intrexon's operating results; (v) actual or anticipated fluctuations in Intrexon's competitors' or its collaborators' operating results or changes in their respective growth rates; (vi) Intrexon's cash position; (vii) market conditions in Intrexon's industry; (viii) the volatility of Intrexon's stock price; (ix) Intrexon's ability, and the ability of its collaborators, to protect Intrexon's intellectual property and other proprietary rights and technologies; (x) Intrexon's ability, and the ability of its collaborators, to adapt to changes in laws or regulations and policies; (xi) the outcomes of pending and future litigation; (xii) the rate and degree of market acceptance of any products developed by Intrexon, its subsidiaries, collaborations or joint ventures; (xiii) Intrexon's ability to retain and recruit key personnel; (xiv) Intrexon's expectations related to the use of proceeds from its public offerings and other financing efforts; and (xv) Intrexon's estimates regarding expenses, future revenue, capital requirements and needs for additional financing. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Intrexon's actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Intrexon's Annual Report on Form 10-K and subsequent reports filed with the Securities and Exchange Commission. All information in this presentation is as of the date of the release, and Intrexon undertakes no duty to update this information unless required by law.

Financial Update

Intrexon's Methane Bioconversion Platform

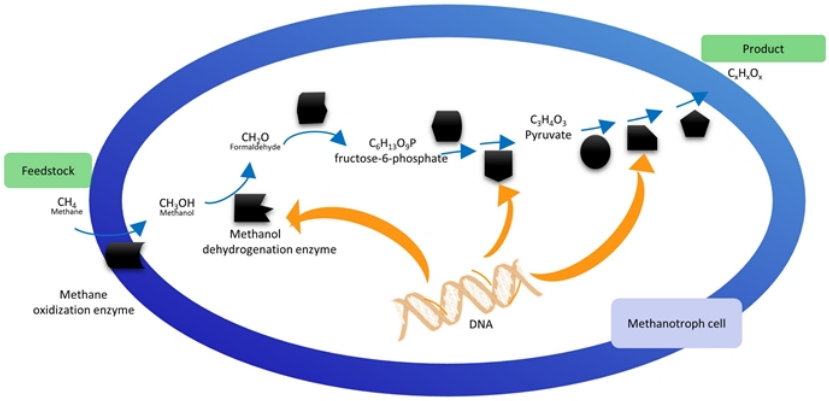
Intrexon's proprietary DNA platform enables the engineering of methanotrophs to produce targeted high-value fuels and chemical products

METHANOTROPH OVERVIEW



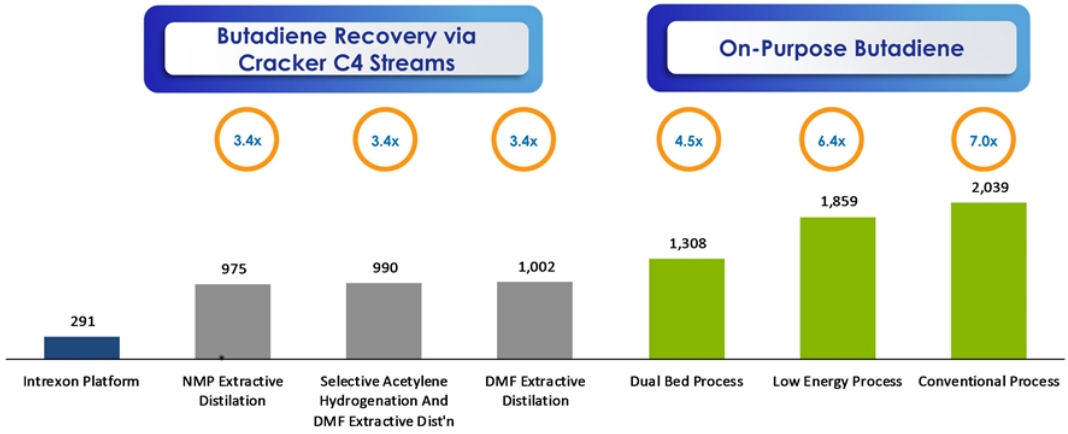
Methanotrophs naturally consume methane

METHANE BIOCONVERSION PLATFORM



Attractive Cost Economics for Leading Chemical – Butadiene

Intrexon's projected butadiene OPEX is superior to the rest of the industry



The vast majority of butadiene are produced as a co-product of liquid cracking through recovery from cracker C4 streams

On-purpose butadiene processes include oxidative dehydrogenation of n-butane to butadiene via Dual Bed and Low Energy processes and the conventional TPC's Oxo-DTM process

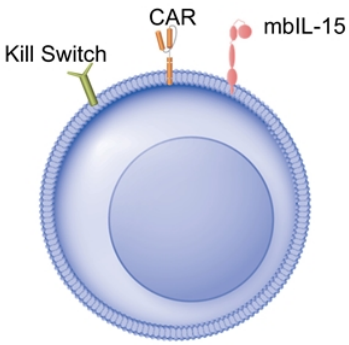
Source: IHS
Assumes 3.00$/MMbtu natural gas; 0.92$/kg mixed butanes feed; 1.13$/kg mixed butanes (raffinate), C4 fractions from cracking of 0.7$/kg
Based on capacity of 98kt /year for Intrexon platform and 100kt/year for other processes
Includes (819)$/t of protein feed credit; Fixed costs exclude corporate G&A; Sales & Research

Robust Microbial Production of Cannabinoids for Medical Use

- Intrexon's proprietary yeast strains enable a transformative process for robust production of cannabinoids with consistent yield and purity
- Platform designed to enable production of multiple target cannabinoids

Disrupting the market: Precigen's Transformative UltraCAR-T™

US FDA cleared the IND for two chimeric antigen receptor T-cell (CAR-T) therapeutic candidates utilizing our UltraCAR-T™ platform



PRGN-3006 UltraCAR-T™, an investigational drug for patients with relapsed or refractory acute myeloid leukemia (AML) and higher risk myelodysplastic syndrome (MDS)

PRGN-3005 UltraCAR-T™, a investigational drug for patients with advanced-stage platinum-resistant ovarian cancer and the first UltraCAR-T™ candidate targeting solid tumors to enter the clinic

CAR – targeting for tumor types, optimized designs

mbIL15 – improves potency, no *ex vivo* expansion needed

Kill switch – designed to improve safety, can selectively deplete cell therapy

PRECIGEN

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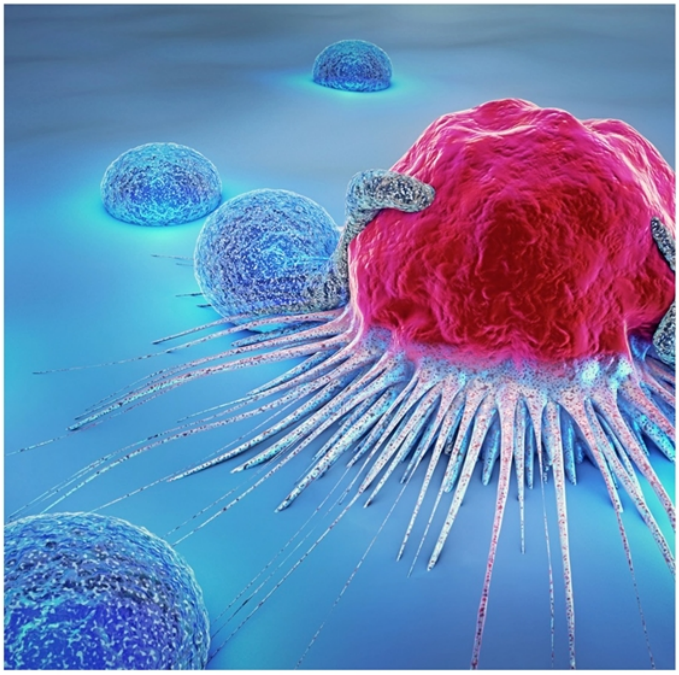
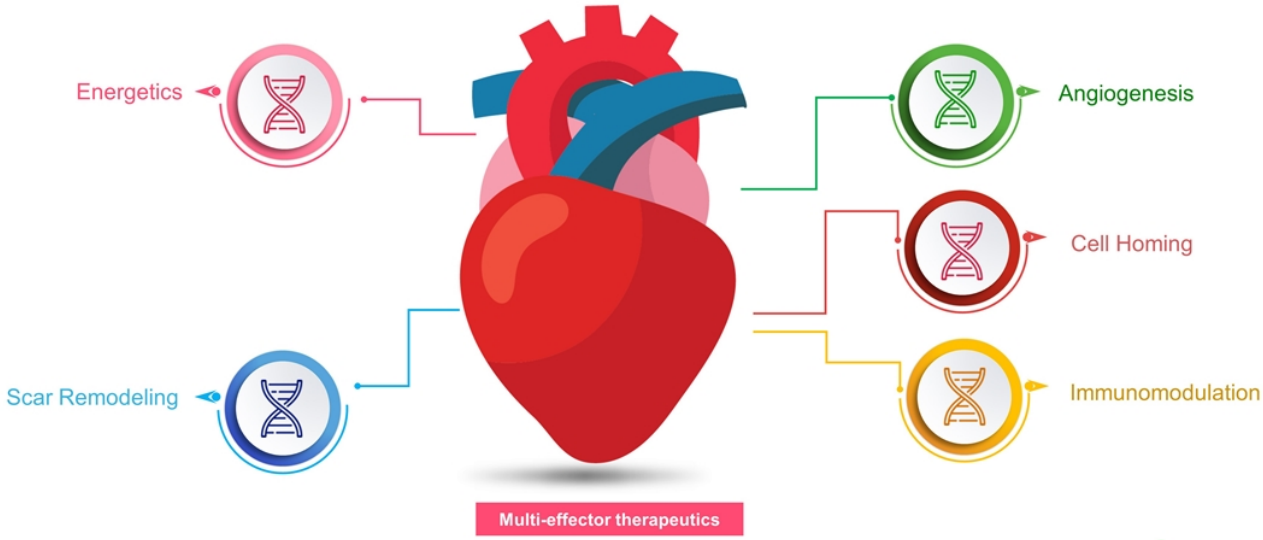
UltraCAR-T™ Platform Brings Key Advancements to CAR-T Cell Therapy



- Non-viral gene transfer using multigenic vectors for expression of multiple effector genes leads to better precision and control of tumor targeting and eliminates the need for virus
- Sustained persistence and desired phenotype of infused UltraCAR-T helps address T-cell exhaustion, a common issue with current CAR-T therapies
- T-cell control by incorporation of kill switch technology to potentially improve the safety profile
- Rapid manufacturing of UltraCAR-T™ cells using our proprietary non-viral gene transfer process, eliminates the need for *ex vivo* propagation, thus dramatically reducing potential wait times for patients from weeks to less than two days

World's First Triple Gene Drug to Target Heart Failure in Clinic

We are continuing patient enrollment and dosing in Phase I trial of INXN-4001, the world's first triple gene drug candidate to target heart failure, the leading cause of death in humans

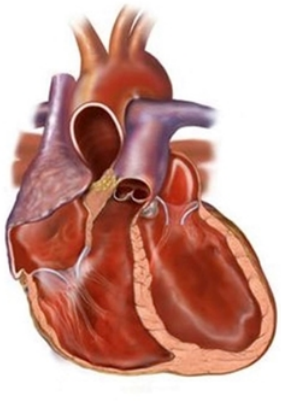


Xogenex, LLC, is Intrexon's majority-owned subsidiary

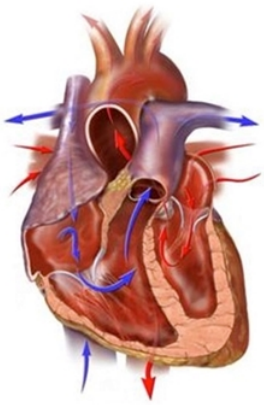
Preliminary Data Suggests Improvements in Cardiac Performance

Early Human Clinical Data: Off Left Ventricular Assist Device (LVAD), LVEF

Characteristic	Subject 01-01	Subject 01-03	Subject 01-04
Baseline	10%	10%	10%
90 Days	20%	15%	35%
6 months	20%	-	40%



Congested Heart



Healthy Heart

Left Ventricular Ejection Fraction (LVEF)

- LVEF refers to the amount of blood being pumped out of the left ventricle each time it contracts
- LVEF was measured via echocardiogram after the six minute walk test when patient's LVAD was turned OFF

LVEF Range*	
Normal	50% to 70%
Mild dysfunction	40% to 49%
Moderate dysfunction	30% to 39%
Severe dysfunction	Less than 30%

*LVEF Range according to American College of Cardiology: Heart Failure An ACC Clinical Toolkit

Microbe-based Delivery of Biopharmaceuticals to Site of Disease

Oral ActoBiotics

ANTIGEN-SPECIFIC TREGS MIGRATE TO INFLAMED TISSUE

- Pancreas – T1D **AG019**
- GI Track – Celiac **AG017**

AG019 Ib/IIa trial in the treatment of early onset **type 1 diabetes** is ongoing and patient enrollment is proceeding in the US and Europe

We continue to target an IND in Q2 2019 for AG017, an immune tolerance approach for the treatment of **celiac disease**

THERAPY TO TARGET MUCOSAL DISEASE PATHWAYS

- Oral cavity – OM **AG013**

Collaborator Oragenics, Inc. continues patient enrollment in the Phase IIb trial for AG013 in the treatment for **oral mucositis**

ACT BIO THERAPEUTICS™

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Non-browning Arctic® Apples Available in Select Markets

- Okanagan Specialty Fruits' (OSF) picked more than 2,100 bins of Arctic® apples in the 2018 harvest
- Select retailers are now selling fresh Arctic® sliced apples and ApBitz™ dehydrated apple snacks. ApBitz™ are also available on Amazon.com
- OSF is planning to plant up to 1,00,000 trees in spring of 2019; additional to the existing ~980,000 trees
- Consumer reception to the apples has been favorable

Bovine Embryos – Elite Bovine Genetics Technology

Trans Ova Genetics is the preeminent leader of bovine genetics in North America:

Focus on continuing to expand and improve herd genetics in support of embryo sales

- More than 575 heifers were added in the last year, with two Jersey heifers ranking #2 and #9 in the world*
- The herd also includes 15 of the world's 37 top Holstein bulls based on an industry accepted dairy production index

* Based on the most current Council of Dairy Cattle Breeding genomic testing results

Advancing Swine Models for Research and Regenerative Medicine

Exemplar Genetics is developing porcine research models, which more accurately replicate human pathology as compared to traditional research models

- Demand for the MiniSwine Models continues to grow
- Expansion into regenerative medicine continues with Exemplar and the Mayo Clinic launching a joint venture, Cytotheryx, to develop high-quality source of human liver cells to advance medical research

Black Soldier Fly Larvae Commercial Facility is Operational

Maysville commercial facility

- EnviroFlight's black soldier fly (BSF) larvae holds considerable promise as an environmentally-friendly toxin-free, sustainable source of high-value nutrients for animal feed
- The largest black soldier fly larvae facility in the US opened in November 2018
- Ability to produce 900 metric tons of product a year and is designed to scale up to 3,200 metric tons
- Commercial production is underway
- Orders for products from the new facility already account for ~1/3 of the anticipated annual output

AquAdvantage® Approach for Sustainable Aquaculture

AquAdvantage® approach enables salmon to grow to market weight in half the time with less feed in land based systems

- AquAdvantage® Salmon (AAS) currently distributed throughout Canada
- FDA approval to raise AAS at land-based Indiana facility; conventional salmon currently being raised at the facility
- USDA recently issued labeling rules; AAS awaits official labeling guidelines by the FDA;
- Prince Edward Island 250 metric ton production facility on track for Q2 2019 completion, allowing for immediate, large-scale production of AAS

AquaBounty Technologies, Inc. (NASDAQ: AQB) is Intrexon's majority-owned subsidiary that pioneered the AquAdvantage® solution

Improved Sustainability in Tilapia Production

Tilapia forecasted to be one of the highest growth production segments in aquaculture

Gene edited tilapia line, FLT 01, exempt from GM regulation according to Argentina's National Advisory Commission on Agricultural Biotechnology (CONABIA)

FLT-01 demonstrates improvements in fillet yield, growth and feed conversion

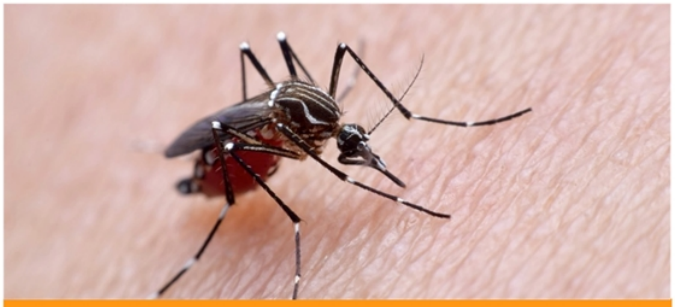
- Fillet yield, ~63%,
- Growth rate, ~14%
- Feed conversion rate, ~16%

Improvements enable production efficiency and sustainability

The FLT 01 tilapia was jointly developed by Intrexon Corporation and AquaBounty Technologies, Inc. (NASDAQ: AQB), Intrexon's majority-owned subsidiary

Next-gen Friendly™ Mosquitoes for Vector Control

Targeted species-specific method to suppress wild populations of disease-carrying mosquito species



Transitioning to 2nd generation self-limiting, male-selecting OX5034 Friendly™ *Aedes* mosquito:

- Better economics than prior strains, without need for large-scale production facilities
- OX5034 in field trial in Indaiatuba, Brazil with government permission to test new release device prototypes in a second city

Collaborative Agreements with the Bill & Melinda Gates Foundation to develop Friendly™ *Anopheles*:

- First strain targeting mosquito that spreads malaria in the Western hemisphere
- Second strain targeting mosquito that spreads malaria in India, Middle East and Horn of Africa

OXITEC

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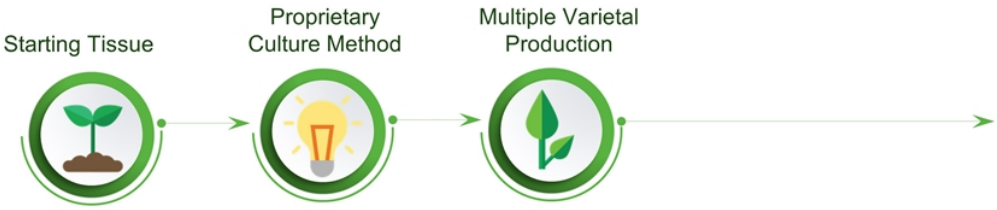
Botticelli™ Next Gen Tissue Culture Technology

Proprietary non-GMO tissue culture technology designed to enable rapid production of clean plants with product consistency and reduced phytosanitary risk



Strategic licensing agreement with Next Green Wave to advance our Botticelli™ platform for production of Next Green Wave's proprietary cannabis cultivars for the California market

Potential to enable:

Rapid multiplication of proprietary lines (e.g., cannabis, lettuce, tomato)

High volume propagation of numerous cultivars

Genetic purity to ensure product integrity and consistent performance, quantity and quality

Sterile plants that eliminate potential disease risk

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Intrexon Overview

Best and brightest scientists & engineers (most valued asset)	Diverse areas of expertise (investments across categories)	Addressing real world challenges (solving unmet needs)	Robust pipeline at various life stages (hedge against timing)	World-first milestones (category defining solutions)

Q & A