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POET Technologies Inc. (NASDAQ: POET)

POET Books NREs in Q2 and Looks to Product Revenues in Q4 at Both POET and the JV

Given its unique product offering and large TAM we believe POET shares are worth \$13.75 based on peer multiples given no further equity dilution than forecast.

Current Price (8/9/22) US\$3.83
Valuation US\$13.75

OUTLOOK

POET Technologies is a startup seeking to disrupt the photonics industry with a new design that eliminates parts of an optical transceiver and replaces them with a single integrated device which is smaller, cheaper and faster than the current solutions. It has a \$50M joint venture with Sanan IC to make and sell optical engines to data centers and telecom. Its solution can be produced in a fab, eliminating costly manual steps, and allowing it to be easily produced in large quantities. We believe POET's platform can be applied to many other large photonics markets including high speed computing, co-packaged optics, medtech, wearables, augmented reality, LIDAR, and the Internet of Things.

SUMMARY DATA

52-Week High \$10.00
52-Week Low \$3.83
One-Year Return (%) -57.0
Beta 0.6
Average Daily Volume (sh) 27,165

Shares Outstanding (mil) 36.7
Market Capitalization (\$mil) \$141
Short Interest Ratio (days) 3.2
Institutional Ownership (%) 2.6
Insider Ownership (%) 1.0

Annual Cash Dividend \$0.00
Dividend Yield (%) 0.00

5-Yr. Historical Growth Rates
Sales (%) N/A
Earnings Per Share (%) N/A
Dividend (%) N/A

P/E using TTM EPS N/M
P/E using 2022 Estimate N/M
P/E using 2023 Estimate N/M

Risk Level
Type of Stock
Industry
Average
Small-Growth
Elec Comp-Semis

ZACKS ESTIMATES

Revenue

(in millions of US\$)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2020	\$0.0 A	\$0.0 A	\$0.0 A	\$0.0 A	\$0.0 A
2021	\$0.0 A	\$0.2 A	\$0.0 A	\$0.0 A	\$0.2 A
2022	\$0.0 A	\$0.1 A	\$0.2 E	\$0.2 E	\$0.5 E
2023					\$5.0 E

Earnings Per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2020	-\$0.12 A	-\$0.21 A	-\$0.12 A	-\$0.17 A	-\$0.62 A
2021	-\$0.13 A	-\$0.13 A	-\$0.10 A	-\$0.10 A	-\$0.45 A
2022	-\$0.15 A	-\$0.14 A	-\$0.15 E	-\$0.17 E	-\$0.64 E
2023					-\$0.57 E

WHAT'S NEW

POET Books NREs in Q2 and Product Revenues are Expected in Q4

Despite the performance of the stock price, POET continued to make technical progress in Q2 and attract more actual and potential customers. It announced the availability of samples of its 400G FR4 and 800G (2x400G FR4) Receive (RX) Optical Engines as well as its 200G FR4 Transmit (TX) and Receive (RX) Optical Engines. The company has a number of customers who are actively designing products using POET's platform. They are designated "Contracted" or "Committed" on the chart below. The others that are labeled "Engaged" have taken samples on an evaluation board and are analyzing POET's platform. The chart also shows that for packaged light source products, both the SPX joint venture and POET expect to book revenues. This is because POET will design and provide custom packaging for the customer, and SPX will manufacture and provide the engine—in effect acting as a subcontractor.

Current Active Customer Engagements

Customer	Customer Type	Product	Engagement Level	Customer Expected Production	3-yr Rev Potential (cumulative)	
					SPX	POET
Customer A	System company	4X100G CWDM4/LR4 OEs	Contracted	2H 2023	\$20M	-
Customer B	Celestial AI	Packaged Light Source	Contracted	2H 2023	\$10M	\$30M
Customer C	FiberTop	100G CWDM4 OEs	Committed	1H 2023	\$5M	-
Customer D	Module company	100G/200G/400G OEs	Committed	1H 2023	\$10M	-
Customer E	Module company	200G/400G OEs	Committed	1H 2023	\$15M	-
Customer F	Module company	200G/400G OEs	Committed	1H 2023	\$15M	-
Customer G	Data Center	Packaged Light Source	Engaged	2H 2023	\$10M	\$30M
Customer H	Optical I/O system	Packaged Light Source	Engaged	2H 2023	\$5M	\$15M
Customer J	Module company	200G Optical Engines	Engaged	2H 2023	\$5M	-
Customer K	Module company	100G/400G OEs	Engaged	2H 2023	\$7.5M	-

Source: POET Technologies

Once the first customers have product available, future sales should be much easier as the technology will be proven and the question of price and performance will be settled. Given the advantages, industry players could then quickly move to adopt POET's platform just to stay competitive. In addition, 100G customers will have already done the hard work and can more easily migrate to faster speeds. POET's solution becomes increasingly more competitive at 400G and once it reaches 800G and above its solution seems to be the ONLY solution due to size constraints and complexity.

Q2 2022 Earnings Report

Q2 revenues were \$120,261 and came from NREs paid by AI Celestial versus NRE revenues of \$209,100 in Q2 2021. We expect the company to book NREs again in Q3 and Q4. In Q4 we also expect POET to finally book product revenues which are expected to come from selling beta samples to AI Celestial. We also expect the joint venture to start booking revenues from the first of its ten customers in Q4 which will be reported separately on the SPX joint venture income statement.

Total expenses were \$5.4 million compared to \$4.5 last year and \$5.4 in Q1 2022. This included a (non-cash) expense of \$745,313 from the joint venture that did not exist in 2020. This loss was more than the \$430,000 loss of the joint venture in Q1 2022. POET still owns 88.5% of the joint venture. R&D expenses were flat with last year at \$1.8 million from \$1.8 million. Stock-based compensation was down to \$970,000 compared to last year's \$1.2 million. Wages & benefits increased to \$728,000 this quarter compared to \$624,000 last year. During the quarter POET hired a new VP Product Line Management. Also adding to the total were the wages of the GM in China which were reclassified as administrative wages from R&D in Q2 2021. General expenses increased to \$552,000 from \$382,000 in the year ago quarter mainly from the NASDAQ listing that increased the cost for directors and officers insurance.

In Q2 2022, the company paid \$12,627 in (non-cash) interest expense compared to \$95,000 in Q1 2022 due to the reduction in convertible debentures.

The net loss was \$5.3 million up from \$4.4 million in Q2 2021. This resulted in an IFRS loss per share of \$0.14 per share and a non-IFRS loss of \$0.12 per share, compared to a loss of \$0.13 and non-IFRS loss of \$0.09 last year. Shares outstanding increased 6.3% to 36.7 million. As of August 8, 2022 there were still 36.7 million shares outstanding, and approximately 42.0 million shares fully diluted.

Balance Sheet

POET Technologies ended the June quarter with \$13.8 million in cash and marketable securities, no convertible debentures and no debt. Working capital was \$12.4 million. The company had negative cash flow (excluding changes in working capital) of \$4.0 million and negative free cash flow of \$4.5 million. The company is burning about \$1.25 million a month. We expect that the required conversion of debentures between April and September of next year should add another \$4.1 million to POET's coffers and augment its runway. At its current burn rate, the company has four to five quarters of cash. As revenues ramp, we expect the burn rate to decline. We expect the company will have to raise some more cash between now and cash flow breakeven, which could occur at a revenue level of \$20 million per quarter.

During the Quarter

On June 29th POET announced the **availability of its 400G FR4 and 800G (2x400G FR4) Receive (RX) Optical Engines**. The company has shipped samples to multiple lead customers and expects the 400G FR4 Receive Optical Engine to be in production at Super Photonics (SPX), its JV with Sanan IC, by the end of 2022.

According to its press release, the 400G FR4 Receive Optical Engine integrates four 56 Gigabaud photodetectors each operating at 100 Gigabits/second speed with a low-loss AWG (Arrayed Waveguide Grating)-based demultiplexer that is monolithically integrated on the Optical Interposer. A single mode optical fiber with LC connector is attached to the Optical Engine for seamless integration in a 400GBASE-FR4 transceiver module.

The 400G FR4 Receive Optical Engine's key features are:

- Four 56 Gigabaud photodetectors each operating at 100 Gigabits/second speed, flip-chipped onto the Optical Interposer and coupled passively to vertical mirrors embedded in the Optical Interposer;

- A low-loss AWG (Arrayed Waveguide Grating)-based quad-wavelength demultiplexer that is polarization independent, temperature independent and is monolithically integrated into the optical waveguide layer of the Optical Interposer;
- A small size (3.8mm x 10mm) form factor, which enables an 800G Optical Engine in a 2x400G configuration in both QSFP-DD800 and OSFP optical transceiver modules; and
- LC connectorized single mode fiber attached to the Optical Engine.

On July 6, 2022, POET announced **sampling of its 200G FR4 Transmit (TX) and Receive (RX) Optical Engines**. POET has shipped samples to multiple lead customers and expects them to be in production at Super Photonics by the end of 2022.

The press release states the 200G FR4 Transmit Optical Engine integrates four high-speed directly modulated lasers (“DMLs”) each operating at 50 Gigabits/second speed with a low-loss AWG (Arrayed Waveguide Grating)-based multiplexer that is monolithically integrated on the Optical Interposer. Monitor photodiodes are built into the Optical Engine for active power monitoring.

The 200G FR4 Receive Optical Engine integrates four high-speed photodetectors each operating at 50 Gigabits/second speed with a low-loss AWG (Arrayed Waveguide Grating)-based demultiplexer that is monolithically integrated on the Optical Interposer. A single mode optical fiber with LC connector is attached to the TX and RX Optical Engines for seamless integration in a 200GBASE-FR4 transceiver module.

These integrated Optical Engines will enable customers to offer cost effective and scalable 200GBASE-FR4 and 2x200GBASE-FR4 transceivers to cloud data center end customers. POET has started sampling multiple lead customers.

The 200G FR4 Transmit and Receive Optical Engine’s key features are:

- Supports 200GBASE-FR4 (4x50Gbps) PAM-4 transmission
- Uncooled DFB lasers (CWDM wavelengths) and PIN photodetectors
- A low-loss AWG (Arrayed Waveguide Grating)-based quad-wavelength multiplexer and demultiplexer that are temperature independent and monolithically integrated into the optical waveguide layer of the Optical Interposer
- A small size form factor, which enables an 200GBASE-FR4 and 2x200GBASE-FR4 in a QSFP56 optical transceiver module
- LC connectorized single mode fiber attached to the engines

Upcoming Trade Shows

The company will be attending two trade shows in September: ECOC in Basel, Switzerland and CIOE 2022, the 24th China International Optoelectronic Exposition in Shenzhen, China. At CIOE the company plans to demonstrate a 400G TX prototype engine using CW lasers with a SiP modulator plus the existing RX engine, a 1.6T RX engine, and a 100G LR4 TX and RX. Then at OFC, in March of 2023, the company plans to demonstrate an 800G TX and RX engine. We expect that could be followed by sample availability six months later.

Financial Forecasts

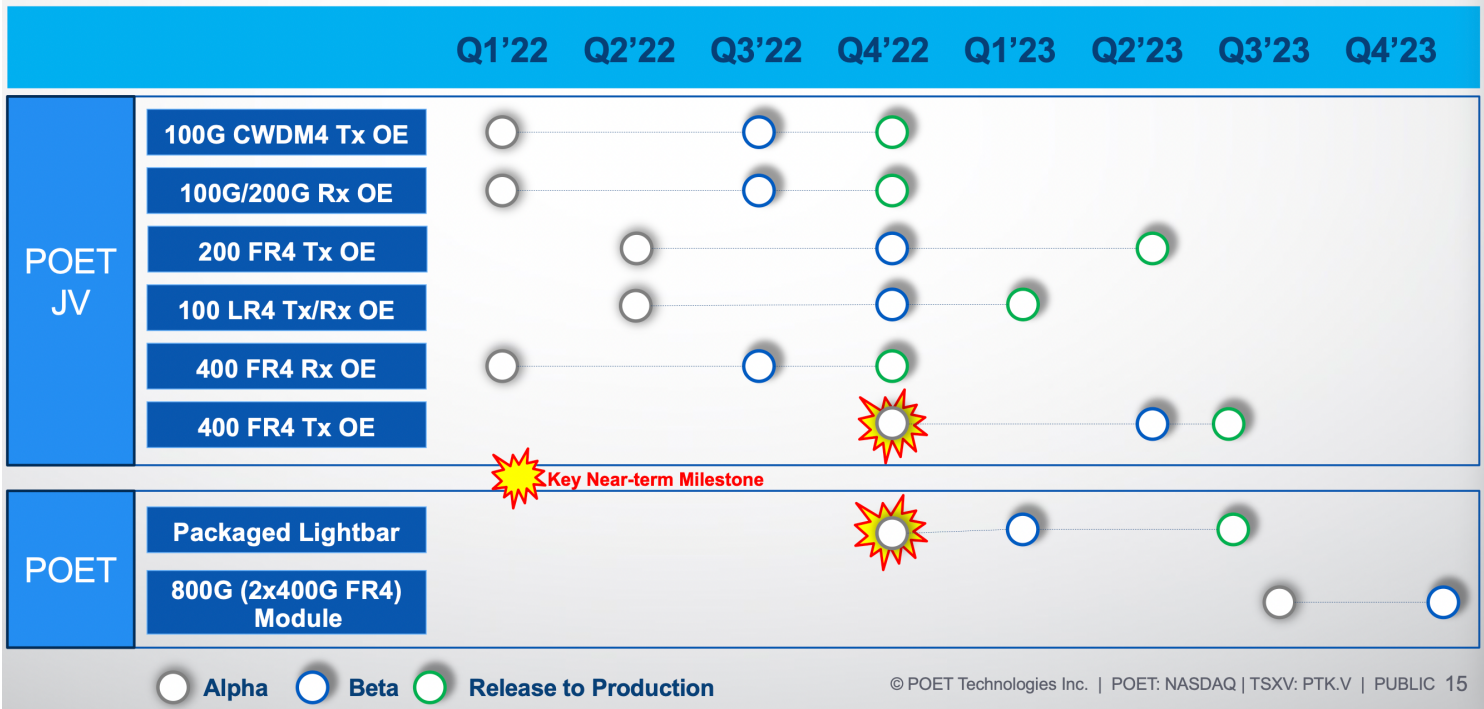
We have adjusted our 2022 and 2023 forecasts to reflex the accounting and revenue recognition of the joint venture on POET’s income statement. Since its revenues are not on POET’s income statement (even though it owns the majority of the SPX joint venture at this point) it only shows up as a single line item which calculates POET’s percent of its losses. For example, even though SPX should start to recognize revenue in Q4 2022, those revenues are not in POET’s topline. However, revenues from Celestial AI, an AI accelerator company, are POET’s and will start to show in Q4 when it is sent beta samples.

We expect POET to generate revenues of \$5 million in 2023, and we also expect the JV to sell an additional \$5 million in product to its Chinese customers, resulting in \$10 million for the year. We expect that POET will disclose a full income statement for the JV in its future filings once they start generating revenues. This information will appear in the notes in POET's financial filings.

KEY POINTS

- The Holy Grail in photonics is cost reduction (through efficiencies in process and materials) combined with lower power consumption. Throw in a smaller size, and higher performance, and customers should beat a path to your door. POET believes it can provide all four with its proprietary “optical interposer” based on a novel low-loss material that can allow multiple components to be integrated into a single package entirely at wafer-scale. What this means is that it can eliminate steps in the labor-intensive assembly process currently used when manufacturing optical transceivers. Manual assembly results in higher scrap rates, longer production times, and higher equipment costs. Also, its base material is far better suited to use in the management of light than silicon due to its lower loss and planar architecture, thus allowing lower powered lasers, resulting in lower power consumption and the ability to use less expensive lasers. POET hopes to disrupt the current market for photonics devices and have its Optical Engine platform become the standard in the industry.
- On October 22nd, POET established a \$50 million joint venture with Xiamen Sanan Integrated Circuit Co. Ltd. of Xiamen, China (SPX). POET is contributing know how and a license to some of its technology, and Xiamen is contributing intellectual property, capital and production facilities. It will ultimately be 53% owned by Sanan IC and 47% by POET, but today POET owns 88.5%. Its percent ownership is reduced as milestones are reached. Its first products will be optical engines to be sold to manufacturers of 100G, 200G, and 400G devices for use in data centers and telecommunications. This joint venture could generate as much as \$200-\$300 million in revenues per year by 2025 by taking modest market share.
- The stock currently trades at a fully diluted enterprise value of US\$147 million. The global market for optical transceivers is estimated to be \$5.7 billion in 2020 and projected to reach a value of \$9.2 billion by 2025, representing a CAGR of 10.0%, according to MarketsandMarkets. POET's product is a component of an optical transceiver and market is about a third of the transceiver market. If POET can secure even a small portion of that market with its unique offering, its valuation should far exceed its current price. We believe the stock could be worth US\$13.75 based on \$200 million in revenues in 2025 at 6.9xs EV to Sales, discounted at 30% back to present value.
- POET expects to book its first product revenue beginning in Q4 2022 from beta samples sold to AI Celestial. The joint venture should also begin to book revenues in Q4 2022. POET's product roadmap is as follows:

Product Roadmap



Source: POET Technologies

VALUATION

POET's business model would make it similar to fabless semiconductor companies. Third parties would provide the production of its devices and we expect it would have margins similar to those companies below. They now trade at lower valuation resulting at an average of 6.9xs enterprise value to estimated 2022 revenues. Currently POET trades at an enterprise value of \$147 million using a fully diluted share count. We need to look further out to where we think revenues would be by 2025. If we say the joint venture is able to reach \$200 million in revenues by then and the rest of the business can ramp to \$100 million that would be \$200 million in revenues for POET in 2025. Using 6.9xs gives us an enterprise valuation of \$1.4 billion. Today's fully diluted share count is 42.0 million shares. We know that the company will probably raise money next year so we are adding 3.75 million shares to the total (\$30 million at \$8 per share.) \$1.4 billion divided by 45.75 million shares is \$30.15 per share by 2025. This would be a present value of US\$13.75 or CN\$17.70 per share discounted by 30% per year.

Company	Ticker	Calendar		LTM	EBITDA	EBITDA Margin	Enterprise Value / Sales			EV/EBITDA	Included in Average?	Ent. Value
		2023E	2022E				2023E	2022E	LTM			
AMD	AMD	\$29,730	\$26,240	\$21,580	5,640	26%	5.6x	6.3x	7.7x	29.4x	y	165,600
Broadcom	AVGO	NA	\$37,060	\$29,990	16,850	56%	NA	0.0x	0.0x	0.0x	y	254
Cirrus Logic	CRUS	NA	\$1,898	\$1,780	428	24%	NA	2.4x	2.6x	10.7x	y	4,570
Lightwave Logic	LWLG	NA	NA	\$0	(20)	NM	NA	NA	NA	-58.8x	n	1,150
Marvell	MRVL	\$7,240	\$6,190	\$5,080	1,490	29%	7.3x	8.6x	10.4x	35.6x	y	53,000
Monolithic Power Sys	MPWR	\$2,110	\$1,810	\$1,330	351	26%	11.4x	13.3x	18.0x	68.4x	y	24,000
NVIDIA	NVDA	\$38,400	\$33,340	\$29,540	12,530	42%	12.2x	14.1x	15.9x	37.5x	y	470,200
Rockley Photonics	RKLY	\$172	\$23	\$7	(123)	-1668%	1.8x	13.7x	41.8x	-2.5x	n	310
Qualcomm	QCOM	NA	\$45,700	\$42,140	16,790.0	40%	NA	3.9x	4.2x	10.6x	y	178,300
Average						-119%	9.1x	6.9x	8.4x	27.5x		127,989

For the valuation we calculated the company's fully diluted share count using the treasury stock method at **42.0 million fully diluted shares** outstanding.

Warrant and Option Stack 30-Jun-22								
Expiration	Type	Holder	Ave. Strike Price		Number	Value		
			CAD	USD		CAD	USD	
2024	Options	Employee	\$ 3.20	\$ 2.40	30,000	\$ 96,000	\$	72,000
2027	Options	Employee	\$ 2.93	\$ 2.20	592,712	\$ 1,736,646	\$	1,302,485
2028	Options	Employee	\$ 4.63	\$ 3.47	719,940	\$ 3,333,322	\$	2,499,992
2029	Options	Employee	\$ 3.60	\$ 2.70	1,374,417	\$ 4,947,901	\$	3,710,926
2030	Options	Employee	\$ 4.73	\$ 3.55	870,047	\$ 4,115,322	\$	3,086,492
			\$ 3.97	\$ 2.98	3,587,116	14,229,192		10,671,894
2023	Warrants	Debenture Conv.	\$ 5.00	\$ 3.75	1,100,750	\$ 5,503,750	\$	4,127,813
			\$ 5.00	\$ 3.75	1,100,750	\$ 5,503,750	\$	4,127,813
			Total ITM Options & Warrant		4,687,866	\$ 19,732,942	\$	14,799,706
2023	Options	Employee	\$ 7.80	\$ 5.85	23,000	\$ 179,400	\$	134,550
2026	Options	Employee	\$ 7.90	\$ 5.93	227,500	\$ 1,797,250	\$	1,347,938
2031	Options	Employee	\$ 10.99	\$ 8.24	925,625	\$ 10,172,619	\$	7,629,464
2032	Options	Employee	\$ 8.30	\$ 6.23	219,939	\$ 1,825,494	\$	1,369,120
			\$ 10.01	\$ 7.51	1,396,064	\$ 13,974,762	\$	10,481,072
2/11/23	Broker warrants	Private placement	\$ 8.50	\$ 6.38	105,883	\$ 900,006	\$	675,004
2/11/23	Warrants	Private placement	\$ 11.50	\$ 8.63	1,764,720	\$ 20,294,280	\$	15,220,710
			\$ 8.50	\$ 8.50	1,870,603	21,194,286		15,895,714
			Total OTM Options & Warrant		3,266,667	\$ 35,169,048	\$	26,376,786
	TOTAL OPTIONS OUTSTANDING		\$ 5.66	\$ 4.24	4,983,180	\$ 28,203,954	\$	21,152,966
	TOTAL WARRANTS OUTSTANDING		\$ 8.99	\$ 6.74	2,971,353	\$ 26,698,036	\$	20,023,527
	TOTAL OPTIONS AND WARRANTS OUTSTANDING		\$ 6.90	\$ 5.18	7,954,533	\$ 54,901,990	\$	41,176,492

Fully Diluted Shares Using Treasury Stock Method

Share Outstanding	36,692,815
Warrants	2,971,353
Options	4,983,180
Debentures	
All in shares	44,647,348
Fully diluted shares	44,647,348
Cash raised by warrants and options	14,799,706
Share purchased by cash raised	2,652,277
Current share price \$	\$ 5.58
Fully diluted shares, TS Method	41,995,071

RISKS

- POET is a startup and has virtually no revenues. It may not be able to close customers if its technology does not work or work within needed parameters. Given its cash burn rate we expect it will need to raise capital, most likely next year, before it reaches cash breakeven. We have forecast needing to sell 3.75 million shares, but at this time that is only a guess. It could be more or less. At any rate investors should expect some dilution in the future.

- Many potential customers may be hesitant to do business with a small, money losing start up, making market penetration even more difficult.
- The company and its joint venture may take longer to book sales, ramp slower or produce less than expected sales and profits. The current foundry capacity shortage has caused the timetable for the company producing and shipping samples to customers and we believe industry conditions beyond its control could lead to further delays.
- POET's solution is significantly different than that currently used in the industry. For customers to switch, it may take more time than expected to persuade them to leave their legacy methodology.
- The pandemic continues to affect the supply chain and POET has experienced delays in shipping as well as acquiring needed components from suppliers. General decision-making has been slowed with potential customers as well due to their supply chain issues.
- The potential of worldwide recession would affect POET and its customers and suppliers.

INCOME STATEMENT

	Q1 21	Q2 21	Q3 21	Q4 21	Q1 22	Q2 22	Q3 22E	Q4 22E	2020	2021	2022E	2023E
Revenue	\$ 0	\$ 209,100	\$ 0	\$ 0	\$ 0	\$ 120,261	\$ 150,000	\$ 180,000	\$ 0	\$ 209,100	\$ 450,261	\$ 5,000,000
Cost of revenue	0	0	0	0	0	0	0	18,000	0	0	18,000	3,000,000
Gross margin	0	209,100	0	0	0	120,261	150,000	162,000	0	209,100	432,261	2,000,000
Gross margin %	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	90.0%	0.0%	100.0%	96.0%	40.0%
Operating expenses												
R&D	1,339,784	1,812,924	1,231,676	2,010,793	2,232,534	1,829,369	2,000,000	2,500,000	6,117,740	6,395,177	8,561,903	10,000,000
Depreciation and amortization	252,731	270,189	296,424	281,178	302,018	313,677	320,000	320,000	813,103	1,100,522	1,255,695	1,100,000
Professional fees	284,105	247,742	354,163	269,306	248,112	291,185	275,000	275,000	800,551	1,155,316	1,089,297	800,000
Wages and benefits	816,012	593,280	623,731	610,428	608,518	728,313	750,000	900,000	2,182,167	2,643,451	2,986,831	4,680,000
Impact of joint venture (88.5% owned)	0	0	(422,834)	(1,022,417)	430,321	745,961	800,000	900,000	0	(1,445,251)	2,876,282	3,000,000
Stock-based compensation	820,538	1,236,593	1,295,864	1,181,375	997,441	969,661	980,000	980,000	3,612,945	4,534,370	3,927,102	4,000,000
General expenses and rent	357,980	381,539	275,078	377,223	622,060	552,410	600,000	600,000	1,245,809	1,391,820	2,374,470	2,000,000
Operating expenses	3,871,150	4,542,267	3,654,102	3,707,886	5,441,004	5,430,576	5,725,000	6,475,000	14,772,315	15,775,405	23,071,580	25,580,000
Operating income	(3,871,150)	(4,333,167)	(3,654,102)	(3,707,886)	(5,441,004)	(5,310,315)	(5,575,000)	(6,313,000)	(14,772,315)	(15,566,305)	(22,639,319)	(23,580,000)
Impairment and other loss	0	0	0	0	0	0	0	0	(2,500,000)	0	0	0
Interest expense	(234,579)	(94,799)	(19,729)	(15,512)	(13,793)	(12,627)	(10,000)	(10,000)	(937,903)	(364,619)	(130,040)	0
Other income	7,309	19,772	21,353	26,650	21,999	40,300	40,300	40,300	41,148	75,084	67,775	32,000
Forgiveness of COVID govt loans	0	0	186,747	0	0	0	0	0	0	186,747	0	0
Pretax loss	(4,098,420)	(4,408,194)	(3,465,731)	(3,696,748)	(5,432,798)	(5,282,642)	(5,544,700)	(6,282,700)	(18,169,070)	(15,669,093)	(22,701,584)	(23,548,000)
Income tax recovery	0	0	0	0	0	0	0	0	0	0	0	0
Net loss	(4,098,420)	(4,408,194)	(3,465,731)	(3,696,748)	(5,432,798)	(5,282,642)	(5,544,700)	(6,282,700)	(18,169,070)	(15,669,093)	(22,701,584)	(23,548,000)
Non-IFRS net loss	(3,277,882)	(3,171,601)	(2,169,867)	(2,515,373)	(4,435,357)	(4,312,981)	(4,564,700)	(5,302,700)	(12,056,125)	(11,134,723)	(18,774,482)	(19,548,000)
Basic and diluted net loss per share	\$ (0.13)	\$ (0.13)	\$ (0.10)	\$ (0.10)	\$ (0.15)	\$ (0.14)	\$ (0.15)	\$ (0.17)	\$ (0.62)	\$ (0.45)	\$ (0.64)	\$ (0.57)
Yr-to-yr growth	6.6%	-40.1%	-17.3%	-40.4%	16.0%	12.8%	52.1%	63.7%		-27.2%	41.5%	24.9%
Non-IFRS loss per share	(0.10)	(0.09)	(0.06)	(0.07)	(0.12)	(0.12)	(0.12)	(0.14)	(0.41)	(0.32)	(0.53)	(0.47)
Share outstanding (millions)	32.1	34.5	35.2	36.4	36.7	36.7	37.0	37.8	29.2	34.5	35.4	41.6
Yr-to-yr growth	10.8%	18.6%	20.2%	23.8%	14.3%	6.3%	5.2%	3.8%	-89.9%	18.4%	2.4%	20.3%
Adjusted EBITDA	(2,797,881)	(2,826,385)	(2,061,814)	(2,245,333)	(3,711,224)	(3,281,016)	(3,475,000)	(4,113,000)	(10,346,267)	(11,376,664)	(14,580,240)	(15,480,000)

BALANCE SHEET

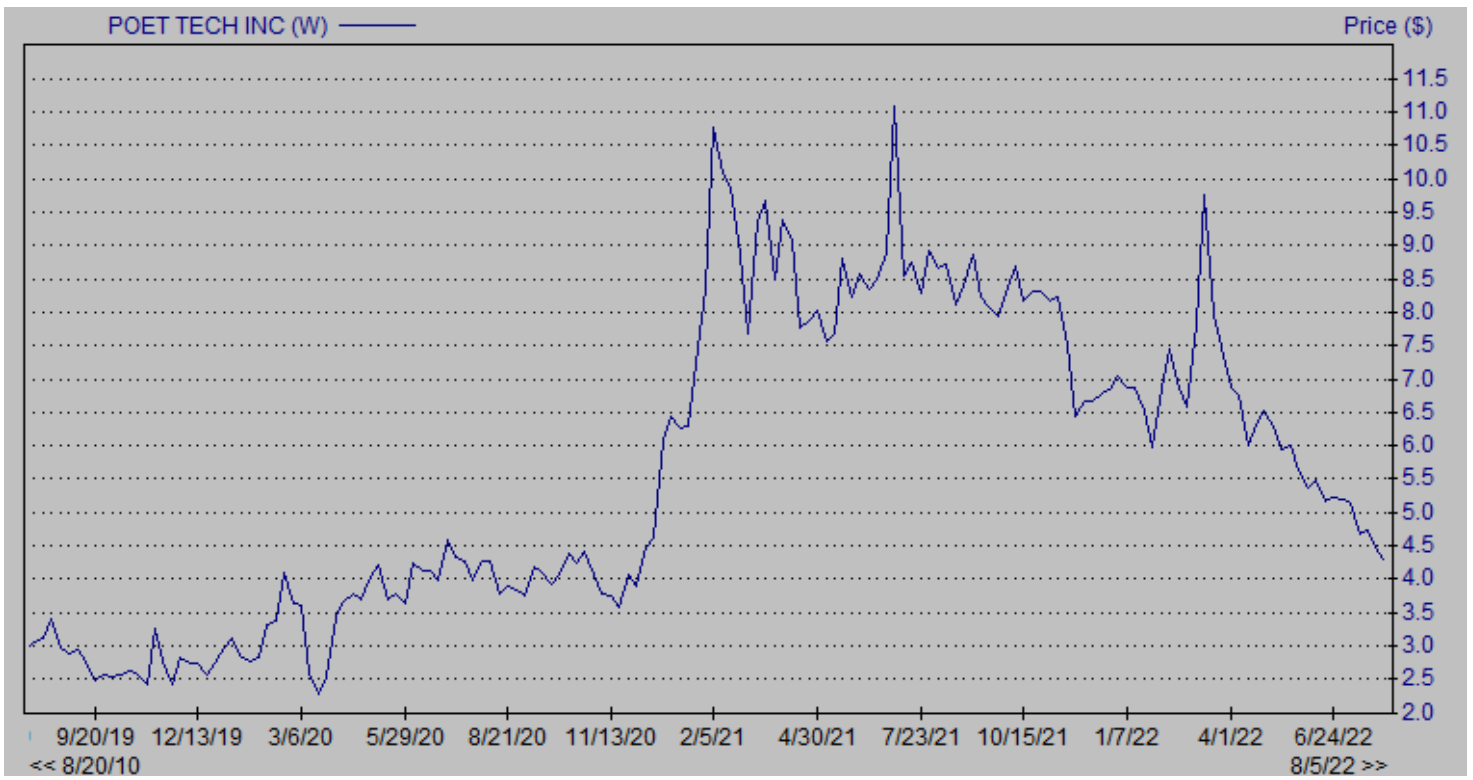
	June 30, 2022	Mar. 31, 2022	Qtr-Qtr % Growth	June 30, 2021	Yr-Yr % Growth
Current					
Cash and cash equivalents	\$ 11,398,499	\$ 11,214,388	2%	\$ 21,941,873	-48%
Short-term investments	2,366,153	6,437,427	-63%	0	NM
Prepays and other current assets	381,723	312,161	22%	294,917	29%
Current Assets	14,146,375	17,963,976	-21%	22,444,050	-37%
Investment in joint venture	236,946	1,021,596	-77%	0	NM
Property and equipment	3,362,494	3,206,928	5%	3,372,863	0%
Patents and licenses	496,760	517,200	-4%	406,688	22%
Right of use asset	315,200	279,204	13%	424,901	-26%
Total Assets	18,557,775	22,988,904	-19%	26,648,502	-30%
Liabilities					
Accounts payable and accrued liabilities	1,177,113	1,624,371	-28%	2,165,686	-46%
Contract liabilities	341,975				
Covid-19 government support loans	31,068	31,928	-3%	189,723	-84%
Lease liability	193,269	150,257	29%	199,148	-3%
Convertible debentures	0	0	0%	171,185	-100%
Current Liabilities	1,743,425	1,806,556	-3%	2,725,742	-36%
Non-current covid-19 govt support loans	0	0	0%	47,822	-100%
Lease liability	155,733	162,985	-4%	258,002	-40%
Total liabilities	1,899,158	1,969,541	-4%	3,031,566	-37%
Shareholders' Equity					
Share capital	148,814,381	148,339,297	0%	138,800,262	7%
Equity component of loan payable	0	0	0%	18,747	-100%
Warrants & comp options	5,273,723	5,273,723	0%	7,711,219	-32%
Contributed surplus	48,547,306	47,800,820	2%	44,759,499	8%
Accumulated other comprehensive loss	(2,274,382)	(1,974,708)	15%	(1,850,300)	23%
Deficit	(183,702,411)	(178,419,769)	3%	(165,824,491)	11%
Shareholder's Equity	16,658,617	21,019,363	-21%	23,614,936	-29%
Tot Liabilities and Share. Equity	\$ 18,557,775	\$ 22,988,904	-19%	\$ 26,646,502	-30%
Cash and short-term investments	\$ 13,764,652	\$ 17,651,815	-22%	\$ 21,941,873	-37%
Cash per share	0.38	0.48	-22%	0.64	-41%
Current ratio	8.1	9.9	-18%	8.2	-1%
Working capital	12,402,950	16,157,420	-23%	19,718,308	-37%
Debt	0	0	0%	171,185	-100%
Debt/total assets	0.0%	0.0%	0%	0.6%	-100%

CASH FLOWS

US Dollars

	2020	Mar. 31, 2021	Jun. 30, 2021	Sep. 30, 2021	Dec. 31, 2021	2021	Mar. 31, 2022	Jun. 30, 2022
OPERATING ACTIVITIES								
Net loss	\$ (18,169,070)	\$ (4,098,420)	\$ (4,408,194)	\$ (3,465,731)	\$ (3,696,748)	\$ (15,669,093)	\$ (5,432,799)	\$ (5,282,642)
Discontinued operations, net	0	0	0	0	0	0	0	0
Net loss, continuing operations	(18,169,070)	(4,098,420)	(4,408,194)	(3,465,731)	(3,696,748)	(15,669,093)	(5,432,799)	(5,282,642)
Adjustments for:								
Depreciation of property and equipment	631,263	188,220	205,154	219,148	227,844	840,366	233,854	253,414
Amortization of patents and licenses	65,782	16,995	16,994	29,848	5,723	69,560	20,376	20,440
Amortization of right of use assets	116,057	47,516	48,041	47,428	47,611	190,596	47,788	39,822
Other operating costs	0	0	0	0	0	0	0	0
Accretion of debt discount on converts & int.	524,095	128,229	48,768	18,548	18,298	213,843	13,794	12,627
Stock-based compensation	3,612,945	820,538	1,236,593	1,295,864	1,181,375	4,534,370	997,441	969,661
Non-cash settled operating costs	910,738	0	13,814	0	0	13,814	0	0
Expected credit loss allowance	2,500,000	0	0	0	0	0	0	0
Gain on lease modification	(786)	0	0	0	0	0	0	0
Gain on contribution of IP to JV	0	0	0	(1,057,500)	(1,530,000)	(2,587,500)	0	0
Share of loss in JV	0	0	0	634,666	507,583	1,142,249	430,321	745,961
Forgiveness of COVID loans	0	0	0	(186,747)	0	(186,747)	0	0
Non-cash foreign exchange	161,000	0	0	0	0	0	0	0
Net change in non-cash working capital accounts:								
Accounts receivable	0	0	(209,100)	209,100	0	0	0	0
Prepaid and other current assets	232,522	(465,106)	798,311	88,597	(286,876)	134,926	175,956	(77,334)
Accounts payable and accrued liabilities	(22,510)	882,528	(450,207)	(679,765)	317,767	70,323	(139,990)	(414,464)
Contract liabilities	0	0	0	0	0	0	0	341,975
Cash flows from operating activities	(9,437,964)	(2,479,500)	(2,699,826)	(2,846,544)	(3,221,237)	(11,233,293)	(3,653,259)	(3,390,540)
INVESTING ACTIVITIES								
Purchase of short-term investments	0	0	0	(6,328,226)	0	(6,366,828)	(16,474)	4,017,149
Proceeds from sale of discount operations	15,500,000	0	0	0	0	0	0	0
Purchase of property and equipment	(1,521,788)	(123,564)	(508,458)	(61,320)	(78,181)	(771,523)	(381,815)	(491,357)
Purchase of patents and licenses	(52,075)	0	0	(17,470)	(141,889)	(159,359)	(9,100)	0
Cash flows from investing activities	13,926,137	(123,564)	(508,458)	(6,407,016)	(258,672)	(7,297,710)	(407,389)	3,525,792
FINANCING ACTIVITIES								
Proceeds from COVID-19 loans	218,151	0	0	0	0	0	0	0
Issue of common shares for cash, net	1,088,450	19,150,387	1,588,712	1,667,954	4,384,258	26,791,311	363,736	1,588,712
Payment of lease liability	(144,142)	(58,720)	(60,064)	(59,425)	(59,425)	(237,634)	(59,190)	(53,663)
Cash flows from financing	1,162,459	19,091,667	1,528,648	1,608,529	4,324,833	26,553,677	304,546	198,246
EFFECT OF EX RATE ON CASH	(205,867)	110,758	149,254	(292,328)	78,523	46,207	28,715	(149,387)
NET CHANGE IN CASH	5,444,765	16,599,361	(1,530,382)	(7,923,545)	923,447	8,068,881	(3,727,387)	184,111
CASH AND CASH EQUIVALENTS, beginning	1,428,129	6,872,894	23,472,255	21,941,873	14,018,328	6,872,894	14,941,775	11,214,388
CASH AND CASH EQUIVALENTS, end	6,872,894	23,472,255	21,941,873	14,018,328	14,941,775	14,941,775	11,214,388	11,398,499
Cash flow continuing	(9,647,976)	(2,896,922)	(2,852,644)	(5,930,207)	(6,935,062)	(27,107,635)	(3,689,225)	(3,986,678)
Free cash flow continuing	(11,169,764)	(3,020,486)	(3,361,102)	(5,991,527)	(7,013,243)	(27,879,158)	(4,071,040)	(4,478,035)

HISTORICAL STOCK PRICE



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