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

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2022

or

☐ **TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Transition Period from to

Commission File No. 001-32919

Ascent Solar Technologies, Inc.
(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**20-3672603** **(I.R.S. Employer Identification No.)**
12300 Grant Street, Thornton, CO **(Address of principal executive offices)**	**80241** **(Zip Code)**

Registrant's telephone number including area code: 720-872-5000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common	ASTI	Nasdaq Capital Markets

Indicate by check mark whether the issuer (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		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.☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of November 10, 2022, there were 33,930,812 shares of our common stock issued and outstanding.

ASCENT SOLAR TECHNOLOGIES, INC.
Quarterly Report on Form 10-Q
For the Period Ended September 30, 2022
Table of Contents

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q includes "forward-looking statements" that involve risks and uncertainties. Forward-looking statements include statements concerning our plans, objectives, goals, strategies, future events, future net sales or performance, capital expenditures, financing needs, plans or intentions relating to acquisitions, business trends and other information that is not historical information and, in particular, appear under headings including "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Overview." When used in this Quarterly Report, the words "estimates," "expects," "anticipates," "projects," "plans," "intends," "believes," "forecasts," "foresees," "likely," "may," "should," "goal," "target," and variations of such words or similar expressions are intended to identify forward-looking statements. All forward-looking statements are based upon information available to us on the date of this Quarterly Report.

These forward-looking statements are subject to risks, uncertainties and other factors, many of which are outside of our control, that could cause actual results to differ materially from the results discussed in the forward-looking statements, including, among other things, the matters discussed in this Quarterly Report in the sections captioned "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Factors you should consider that could cause these differences are:

- The impact of the novel coronavirus ("COVID-19") pandemic on our business, results of operations, cash flows, financial condition and liquidity;
- Our operating history and lack of profitability;
- Our ability to develop demand for, and sales of, our products;
- Our ability to attract and retain qualified personnel to implement our business plan and corporate growth strategies;
- Our ability to develop sales, marketing and distribution capabilities;
- Our ability to successfully develop and maintain strategic relationships with key partners;
- The accuracy of our estimates and projections;
- Our ability to secure additional financing to fund our short-term and long-term financial needs;
- Our ability to maintain the listing of our common stock on the Nasdaq Capital Markets;
- The commencement, or outcome, of legal proceedings against us, or by us, including ongoing litigation proceedings;
- Changes in our business plan or corporate strategies;
- The extent to which we are able to manage the growth of our operations effectively, both domestically and abroad, whether directly owned or indirectly through licenses;
- The supply, availability and price of equipment, components and raw materials, including the elements needed to produce our photovoltaic modules;
- Our ability to expand and protect the intellectual property portfolio that relates to our photovoltaic modules and processes;
- Our ability to maintain effective internal controls over financial reporting;
- Our ability to achieve projected operational performance and cost metrics;
- General economic and business conditions, and in particular, conditions specific to the solar power industry; and
- Other risks and uncertainties discussed in greater detail elsewhere in this Quarterly Report and in Part I, Item 1A "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2021.

There may be other factors that could cause our actual results to differ materially from the results referred to in the forward-looking statements. We undertake no obligation to publicly update or revise forward-looking statements to reflect subsequent events or circumstances after the date made, or to reflect the occurrence of unanticipated events, except as required by law.

References to "we," "us," "our," "Ascent," "Ascent Solar" or the "Company" in this Quarterly Report mean Ascent Solar Technologies, Inc.

ASCENT SOLAR TECHNOLOGIES, INC.

PART I. FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements

CONDENSED CONSOLIDATED BALANCE SHEETS
(unaudited)

		September 30, 2022		December 31, 2021
ASSETS				
Current Assets:				
Cash and cash equivalents	$	2,850,271	$	5,961,760
Trade receivables, net of allowance of $26,000 and $26,000, respectively		112,000		49,250
Inventories, net		684,385		592,172
Prepaid and other current assets		875,041		247,736
Total current assets		4,521,697		6,850,918
Property, Plant and Equipment:		22,558,389		22,425,935
Accumulated depreciation		(22,022,653)		(22,146,273)
Property, Plant and Equipment, net		535,736		279,662
Other Assets:				
Operating lease right-of-use assets, net		4,489,930		4,984,688
Patents, net of accumulated amortization of $149,426 and $135,050 respectively		80,223		86,595
Equity method investment		61,254		21,205
Other non-current assets		625,000		625,000
Total Assets	$	10,313,840	$	12,848,068
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)				
Current Liabilities:				
Accounts payable	$	717,054	$	642,165
Related party payables		42,666		45,000
Accrued expenses		2,341,667		991,534
Accrued interest		521,496		475,671
Notes payable		250,000		250,000
Current portion of operating lease liability		708,762		646,742
Total current liabilities		4,581,645		3,051,112
Long-Term Liabilities:				
Non-current operating lease liabilities		4,004,667		4,532,490
Non-current convertible notes, net		-		8,076,847
Accrued warranty liability		21,225		21,225
Total liabilities		8,607,537		15,681,674
Stockholders' Equity (Deficit):				
Series A preferred stock, $.0001 par value; 750,000 shares authorized; 48,100 and 48,100 shares issued and outstanding, respectively ($838,009 and $801,533 Liquidation Preference, respectively)		5		5
Common stock, $0.0001 par value, 500,000,000 authorized; 33,930,812 and 4,786,804 shares issued and outstanding, respectively		3,393		479
Additional paid in capital		444,022,317		424,948,698
Accumulated deficit		(442,303,388)		(427,782,788)
Accumulated other comprehensive loss		(16,024)		-
Total stockholders' equity (deficit)		1,706,303		(2,833,606)
Total Liabilities and Stockholders' Equity (Deficit)	$	10,313,840	$	12,848,068

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

ASCENT SOLAR TECHNOLOGIES, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Revenues				
Products	$ 6,344	$ 11,723	$ 688,125	$ 557,369
Milestone and engineering	-	-	522,000	-
Total Revenues	6,344	11,723	1,210,125	557,369
Costs and Expenses				
Costs of revenue	409,819	687,885	1,519,703	1,184,528
Research, development and manufacturing operations	1,540,170	1,086,513	4,399,765	2,716,395
Selling, general and administrative	1,890,218	882,641	3,583,366	2,244,771
Share-based compensation	3,796,151	-	3,796,151	-
Depreciation and amortization	20,497	15,111	54,998	40,047
Total Costs and Expenses	7,656,855	2,672,150	13,353,983	6,185,741
Loss from Operations	(7,650,511)	(2,660,427)	(12,143,858)	(5,628,372)
Other Income/(Expense)				
Other income/(expense), net	20,000	67,644	22,000	68,443
Interest expense	(252,571)	(167,983)	(2,371,256)	(899,533)
Change in fair value of derivatives and gain/(loss) on extinguishment of liabilities, net	-	195,852	-	4,047,993
Total Other Income/(Expense)	(232,571)	95,513	(2,349,256)	3,216,903
Income/(Loss) on Equity Method Investments	(27,484)	-	(27,486)	
Net Income/(Loss)	$ (7,910,566)	$ (2,564,914)	$ (14,520,600)	$ (2,411,469)
Net Income/(Loss) Per Share (Basic and Diluted)	$ (0.24)	$ (0.67)	$ (0.51)	$ (0.65)
Weighted Average Common Shares Outstanding (Basic)	33,159,093	3,814,904	28,555,408	3,706,361
Weighted Average Common Shares Outstanding (Diluted)	33,159,093	3,814,904	28,555,408	3,706,361
Other Comprehensive Income/(Loss)				
Foreign currency translation gain/(loss)	(2,671)	-	(16,024)	-
Net Comprehensive Income/(Loss)	$ (7,913,237)	$ (2,564,914)	$ (14,536,624)	$ (2,411,469)

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

ASCENT SOLAR TECHNOLOGIES, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)
(unaudited)
For the Three and Nine Months Ended September 30, 2022

	Series A Preferred Stock		Series 1A Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Other Accumulated Comprehensive Loss	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at January 1, 2022	48,100	$ 5	3,700	$ -	4,787,415	$ 479	$ 424,948,698	$ (427,782,788)		$ (2,833,606)
Conversion of TubeSolar Series 1A Preferred Stock into Common Stock	-	-	(2,400)	-	4,800,000	480	(480)	-	-	-
Conversion of Crowdex Series 1A Preferred Stock into Common Stock	-	-	(1,300)	-	2,600,000	260	(260)	-	-	-
Conversion of BD1 Note into Common Stock	-	-	-	-	15,800,000	1,580	7,898,420	-	-	7,900,000
Conversion of Nanyang Note into Common Stock	-	-	-	-	1,200,000	120	599,880	-	-	600,000
Conversion of Fleur Note into Common Stock	-	-	-	-	1,400,000	140	699,860	-	-	700,000
Net Loss	-	-	-	-	-	-	-	(6,610,034)	-	(6,610,034)
Foreign Currency Translation Loss	-	-	-	-	-	-	-	-	(13,353)	(13,353)
Balance at June 30, 2022	48,100	$ 5	-	$ -	30,587,415	$ 3,059	$ 434,146,118	$ (434,392,822)	$ (13,353)	$ (256,993)
Conversion of Nanyang Note into Common Stock	-	-	-	-	1,800,000	180	899,820	-	-	900,000
Conversion of Fleur Note into Common Stock	-	-	-	-	600,000	60	299,940	-	-	300,000
Proceeds from private placement:										-
Common stock (8/19 @ $2.70)	-	-	-	-	943,397	94	2,551,311	-	-	2,551,405
Warrants (8/19 @ $1.73)	-	-	-	-	-	-	2,448,595	-	-	2,448,595
Private placement costs	-	-	-	-	-	-	(119,617)	-	-	(119,617)
Share-based compensation	-	-	-	-	-	-	3,796,150	-	-	3,796,150
Net Loss	-	-	-	-	-	-	-	(7,910,566)	-	(7,910,566)
Foreign Currency Translation Loss	-	-	-	-	-	-	-	-	(2,671)	(2,671)
Balance at September 30, 2022	48,100	$ 5	-	$ -	33,930,812	$ 3,393	$ 444,022,317	$ (442,303,388)	$ (16,024)	$ 1,706,303

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

ASCENT SOLAR TECHNOLOGIES, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' DEFICIT
(unaudited)
For the Three and Nine Months Ended September 30, 2021

	Series A Preferred Stock		Series 1A Preferred Stock		Common Stock		Additional Paid-In	Accumulated	Total Stockholders' Equity
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Deficit	(Deficit)
Balance at January 1, 2021	48,100	$ 5	1,300	$ -	3,660,439	$ 366	$ 401,590,211	$ (421,782,785)	$ (20,192,203)
Proceeds from Issuance of Series 1A Preferred Stock	-	-	2,500	-	-	-	2,500,000	-	2,500,000
Proceeds from Issuance of Common Stock	-	-	-	-	1,500	2	2,999,998	-	3,000,000
Conversion of Global Ichiban Note into Common Shares	-	-	-	-	33,600	3	5,799,997	-	5,800,000
Relieved on Conversion of Derivative Liability	-	-	-	-	-	-	1,686,079	-	1,686,079
Net Income	-	-	-	-	-	-	-	153,445	153,445
Balance at June 30, 2021	48,100	$ 5	3,800	$ -	3,695,539	$ 371	$ 414,576,285	$ (421,629,340)	$ (7,052,679)
Proceeds from issuance of Common Shares	-	-	-	-	66,667	67	4,999,933	-	5,000,000
Conversion of TubeSolar Series 1A Preferred Stock into Common Shares	-	-	(100)	-	200,000	200	(200)	-	-
Net Loss	-	-	-	-	-	-	-	(2,564,914)	(2,564,914)
Balance at September 30, 2021	48,100	$ 5	3,700	$ -	3,962,206	$ 638	$ 419,576,018	$ (424,194,254)	$ (4,617,593)

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

ASCENT SOLAR TECHNOLOGIES, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	For the Nine Months Ended September 30,	
	2022	2021
Operating Activities:		
Net income/(loss)	$ (14,520,600)	$ (2,411,469)
Adjustments to reconcile net income (loss) to cash used in operating activities:		
Depreciation and amortization	54,998	40,047
Share-based compensation	3,796,150	—
Operating lease asset amortization	515,803	482,945
Amortization of debt discount	2,323,153	837,767
Loss on equity method investment	27,486	—
Warranty reserve	—	7,082
Change in fair value of derivatives and gain on extinguishment of liabilities, net	—	(4,047,993)
Changes in operating assets and liabilities:		
Accounts receivable	(62,750)	1,568
Inventories	(92,213)	(81,243)
Prepaid expenses and other current assets	(746,922)	(243,155)
Accounts payable	74,889	(86,266)
Related party payable	(2,334)	(90,834)
Operating lease liabilities	(486,848)	(427,764)
Accrued interest	45,825	44,461
Accrued expenses	1,147,577	(252,959)
Net cash used in operating activities	(7,925,786)	(6,227,813)
Investing Activities:		
Contributions to equity method investment	(83,559)	—
Payments on purchase of assets	(94,140)	(176,466)
Patent activity costs	(8,004)	17,648
Net cash used in investing activities	(185,703)	(158,818)
Financing Activities:		
Proceeds from issuance of bridge loan	1,000,000	—
Proceeds from issuance of stock and warrants	4,000,000	10,500,000
Net cash provided by financing activities	5,000,000	10,500,000
Net change in cash and cash equivalents	(3,111,489)	4,113,369
Cash and cash equivalents at beginning of period	5,961,760	167,725
Cash and cash equivalents at end of period	$ 2,850,271	$ 4,281,094
Non-Cash Transactions:		
Conversion of bridge loan into common stock and warrants	$ 1,000,000	$ —
Right-of-use assets acquired through operating lease liabilities	$ 21,045	$ —
Purchases of equipment not yet paid at end of period	$ 202,556	$ —
Non-cash conversions of preferred stock and convertible notes to equity	$ 10,400,000	$ 5,800,000
Non-cash forgiveness of PPP loan	$ —	$ 193,200
Series 1A preferred stock conversion	$ 740	$ —

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. ORGANIZATION

Ascent Solar Technologies, Inc. (the “Company") is currently focusing on integrating its PV products into scalable and high value markets such as agrivoltaics, aerospace, satellites, near earth orbiting vehicles, and fixed wing unmanned aerial vehicles (“UAV”). The value proposition of Ascent’s proprietary solar technology not only aligns with the needs of customers in these industries, but also overcomes many of the obstacles other solar technologies face in these unique markets. Ascent has the capability to produce high quality bare modules, and design and develop finished products for end users in these areas as well as collaborate with strategic partners to design and develop custom solutions for integrators and end-product manufacturers across our designated target industries. Ascent sees significant overlap of the needs of end users across these industries and can achieve economies of scale in sourcing, development, and production of products for these customers.

On January 28, 2022 as of 5:00 pm Eastern Time, the Company effected a reverse stock split of the Company’s common stock, par value $0.0001 per share (the “Common Stock”) at a ratio of one-for-five thousand (the “Reverse Stock Split”). The Company’s common stock began trading on a split-adjusted basis at 9:30 am Eastern Time on January 31, 2022. Stockholders also received one whole share of Common Stock in lieu of a fractional share and no fractional shares were issued. All shares and per share amounts in the condensed consolidated financial statements and accompanying notes have been retroactively adjusted to give effect to the Reverse Stock Split.

Following the Reverse Stock Split, the Company’s issued and outstanding shares of Common Stock were decreased from approximately 23.7 billion pre-split shares to 4.8 million post-split shares. In connection with the Reverse Stock Split effectiveness, the number of authorized shares of the Company's Common Stock were decreased from 30 billion to 500 million shares.

NOTE 2. BASIS OF PRESENTATION

The accompanying, unaudited, condensed consolidated financial statements have been derived from the accounting records of the Company as of September 30, 2022 and December 31, 2021, and the results of operations for the three and nine months ended September 30, 2022 and 2021. All significant inter-company balances and transactions have been eliminated in the accompanying condensed consolidated financial statements.

The accompanying, unaudited, condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial information and in accordance with the instructions to Form 10-Q and Article 8 of Regulation S-X. Accordingly, these interim financial statements do not include all of the information and footnotes typically found in U.S. GAAP audited annual financial statements. In the opinion of management, all adjustments (consisting only of normal recurring adjustments) considered necessary for a fair statement have been included. The Condensed Consolidated Balance Sheet at December 31, 2021 has been derived from the audited financial statements as of that date but does not include all of the information and footnotes included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2021. These condensed consolidated financial statements and notes should be read in conjunction with the financial statements and notes thereto included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2021.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Operating results for the three and nine months ended September 30, 2022 are not necessarily indicative of the results that may be expected for the year ending December 31, 2022.

NOTE 3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Company’s significant accounting policies were described in Note 3 to the audited financial statements included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2021. There have been no significant changes to our accounting policies as of September 30, 2022.

Revenue Recognition:

Product revenue. The Company recognizes revenue for the sale of PV modules and other equipment sales at a point in time following the transfer of control of such products to the customer, which typically occurs upon shipment or delivery depending on the terms of the underlying contracts. For module and other equipment sales contracts that contain multiple performance obligations, the Company allocates the transaction price to each performance obligation identified in the contract based on relative standalone selling prices, or estimates of such prices, and recognizes the related revenue as control of each individual product is transferred to the customer.

During the three months ended September 30, 2022 and 2021, the Company recognized product revenue of $6,344 and $11,723, respectively. During the nine months ended September 30, 2022 and 2021, the Company recognized product revenue of $688,125 and $557,369, respectively. During the nine months ended September 30, 2022 and 2021, one customer comprised 84% and 92%, respectively of the total product revenue.

Milestone and engineering revenue. Each milestone and engineering arrangement is a separate performance obligation. The transaction price is estimated using the most likely amount method and revenue is recognized as the performance obligation is satisfied through achieving manufacturing, cost, or engineering targets. During the three and nine months ended September 30, 2022, the Company recognized total milestone and engineering revenue of $0 and $522,000, respectively. Of the $522,000, $512,000 was earned from TubeSolar AG (“TubeSolar”), a related party. The Company did not have Milestone and engineering revenue during the three and nine months ended September 30, 2021.

Government contracts revenue. Revenue from government research and development contracts is generated under terms that are cost plus fee or firm fixed price. The Company generally recognizes this revenue over time using cost-based input methods, which recognizes revenue and gross profit as work is performed based on the relationship between actual costs incurred compared to the total estimated costs of the contract. In applying cost-based input methods of revenue recognition, the Company uses the actual costs incurred relative to the total estimated costs to determine our progress towards contract completion and to calculate the corresponding amount of revenue to recognize.

Cost based input methods of revenue recognition are considered a faithful depiction of the Company’s efforts to satisfy long-term government research and development contracts and therefore reflect the performance obligations under such contracts. Costs incurred that do not contribute to satisfying the Company’s performance obligations are excluded from the input methods of revenue recognition as the amounts are not reflective of transferring control under the contract. Costs incurred towards contract completion may include direct costs plus allowable indirect costs and an allocable portion of the fixed fee. If actual and estimated costs to complete a contract indicate a loss, provision is made currently for the loss anticipated on the contract.

No government contract revenue was recognized during the three and nine months ended September 30, 2022 and 2021.

Accounts Receivable. As of September 30, 2022 and December 31, 2021, the Company had an accounts receivable, net balance of $112,000 and $49,250, respectively. As of September 30, 2022, one customer comprised 100% of the total net accounts receivable balance. As of September 30, 2022 and December 31, 2021, the Company had an allowance for doubtful accounts of $26,000 and $26,000, respectively.

Deferred revenue for the nine months ended September 30, 2022 was as follows:

Balance as of January 1, 2022	$	22,500
Additions		206,279
Recognized as revenue		(228,779)
Balance as of September 30, 2022	$	-

Share-Based Compensation: The Company measures and recognizes compensation expense for all share-based payment awards made to employees, officers, directors, and consultants based on estimated fair values. The value of the portion of the award that is ultimately expected to vest, net of estimated forfeitures, is recognized as expense on a straight-line basis, over the requisite service period in the Company’s Statements of Operations. Share-based compensation is based on awards ultimately expected to vest and is reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, as necessary, in subsequent periods if actual forfeitures differ from those estimates. The Company estimates the fair value of its restricted stock awards as its stock price on the grant date.

Earnings per Share: Earnings per share ("EPS") are the amount of earnings attributable to each share of common stock. Basic EPS has been computed by dividing income available to common stockholders by the weighted-average number of common shares outstanding during the period. Income available to common stockholders has been computed by deducting dividends accumulated for the period on cumulative preferred stock (whether or not earned) from net income. Diluted earnings per share has been computed by dividing net income adjusted on an if-converted basis for the period by the weighted average number of common shares and potentially dilutive common share outstanding (which consist of warrants, options and convertible securities using the treasury stock method or the if-converted method, as applicable, to the extent they are dilutive). Approximately 76 thousand and 12 thousand shares of dilutive shares were excluded from the three and nine months period ended September 30, 2022, respectively, EPS calculation as their impact is antidilutive. Approximately 29 million and 188 million shares were excluded from the three and nine months period ended September 30, 2021, respectively, EPS calculation as their impact is antidilutive.

Recently Adopted or to be Adopted Accounting Policies

In August 2020, the FASB issued ASU No. 2020-06, *Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*. ASU 2020-06 will simplify the accounting for convertible instruments by reducing the number of accounting models for convertible debt instruments and convertible preferred stock. Limiting the accounting models results in fewer embedded conversion features being separately recognized from the host contract as compared with current U.S. GAAP. Convertible instruments that continue to be subject to separation models are (1) those with embedded conversion features that are not clearly and closely related to the host contract, that meet the definition of a derivative, and that do not qualify for a scope exception from derivative accounting and (2) convertible debt instruments issued with substantial premiums for which the premiums are recorded as paid-in capital. ASU 2020-06 also amends the guidance for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions. ASU 2020-06 will be effective for smaller reporting public companies for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within those fiscal years and can be adopted using either a modified retrospective or a fully retrospective method of transition. Management has not yet evaluated the impact that the adoption of ASU 2020-06 will have on the Company's condensed consolidated financial statement presentation or disclosures.

Other new pronouncements issued but not effective as of September 30, 2022 are not expected to have a material impact on the Company's condensed consolidated financial statements.

NOTE 4. LIQUIDITY, CONTINUED OPERATIONS, AND GOING CONCERN

During the year ended December 31, 2021, the Company entered into multiple financing agreements to fund operations. Further discussion of these transactions can be found in Notes 8, 9, 10, and 11 in the Company's Annual Report on Form 10-K for the year ended December 31, 2021.

The Company has continued limited PV production at its manufacturing facility. The Company does not expect that sales revenue and cash flows will be sufficient to support operations and cash requirements until it has fully implemented its product strategy. During the nine months ended September 30, 2022 the Company used $7,925,786 in cash for operations.

Additional projected product revenues are not anticipated to result in a positive cash flow position for the next twelve months overall and, as of September 30, 2022, the Company has a working capital deficit of $59,948. As such, cash liquidity is not sufficient for the next twelve months and will require additional financing.

The Company has launched an initiative to expand its production of PV films at industrial scale, and to secure long-term contracts for the sale of such output. The Company continues activities related to securing additional financing through strategic or financial investors, but there is no assurance the Company will be able to raise additional capital on acceptable terms or at all. If the Company's revenues do not increase rapidly, and/or additional financing is not obtained, the Company will be required to significantly curtail operations to reduce costs and/or sell assets. Such actions would likely have an adverse impact on the Company's future operations.

As a result of the Company's recurring losses from operations and the need for additional financing to fund its operating and capital requirements, there is uncertainty regarding the Company's ability to maintain liquidity sufficient to operate its business effectively, which raises doubt as to the Company's ability to continue as a going concern.

Management cannot provide any assurances that the Company will be successful in accomplishing any of its plans. These condensed consolidated financial statements do not include any adjustments that might be necessary should the Company be unable to continue as a going concern.

NOTE 5. RELATED PARTY TRANSACTIONS

On September 15, 2021, the Company entered into a Long-Term Supply and Joint Development Agreement ("JDA") with TubeSolar. Under the terms of the JDA, the Company will produce, and TubeSolar will purchase, thin-film photovoltaic ("PV") foils ("PV Foils") for use in TubeSolar's solar modules for agricultural photovoltaic ("APV") applications that require solar foils for its production. Additionally, the Company will receive (i) up to $4 million of non-recurring engineering ("NRE") fees, (ii) up to $13.5 million of payments upon achievement of certain agreed upon production and cost structure milestones and (iii) product revenues from sales of PV Foils to TubeSolar. The JDA has no fixed term, and may only be terminated by either party for breach. $500,000 of NRE revenue and $3,000 PV Foil revenue were recognized under the JDA during the nine months ended September 30, 2022.

The Company and TubeSolar have also jointly established Ascent Solar Technologies Germany GmbH ("Ascent Germany"), in which TubeSolar holds of 30% of the entity. Ascent Germany was established to operate a PV manufacturing facility in Germany that will produce and deliver PV Foils exclusively to TubeSolar. Until Ascent Germany's facility is fully operational, PV Foils will be manufactured in the Company's existing facility in Thornton, Colorado. The parties expect to jointly develop next generation tooling for use in manufacturing PV Foils at the JV facility. The Company accounts for this investment as an equity method investment as it does not have control of this entity, but does have significant influence over the activities that most significantly impact the entity's operations and financial performance. The Company contributed $83,559 to Ascent Germany during the nine months ended September 30, 2022. The Company currently cannot quantify its maximum exposure in this entity.

NOTE 6. PROPERTY, PLANT AND EQUIPMENT

The following table summarizes property, plant and equipment as of September 30, 2022 and December 31, 2021:

	As of September 30, 2022	As of December 31, 2021
Furniture, fixtures, computer hardware and computer software	$ 472,004	$ 473,448
Manufacturing machinery and equipment	21,729,155	21,863,624
Leasehold improvements	81,001	-
Manufacturing machinery and equipment, in progress	276,229	88,863
Depreciable property, plant and equipment	22,558,389	22,425,935
Less: Accumulated depreciation and amortization	(22,022,653)	(22,146,273)
Net property, plant and equipment	$ 535,736	$ 279,662

Depreciation expense for the three months ended September 30, 2022 and 2021 was $15,705 and $5,956, respectively. Depreciation expense for the nine months ended September 30, 2022 and 2021 was $40,622 and $11,404, respectively. Depreciation expense is recorded under "Depreciation and amortization expense" in the unaudited Condensed Consolidated Statements of Operations.

NOTE 7. OPERATING LEASE

The Company's operating leases are comprised of approximately 100,000 rentable square feet for its manufacturing and operations and a Company car. These leases are classified and accounted for as operating leases. The building lease term is for 88 months commencing on September 21, 2020 at a rent of $50,000 per month including taxes, insurance and common area maintenance until December 31, 2020. Beginning January 1, 2021, the rent adjusted to $80,000 per month on a triple net basis and shall increase at an annual rate of 3% per annum until December 31, 2027. The Company car lease term is for 39 months commencing on June 30, 2022. The Company made a $5,000 initial payment and pays $493 per month.

As of September 30, 2022 and December 31, 2021, assets and liabilities related to the Company's leases were as follows:

	As of September 30, 2022	As of December 31, 2021
Operating lease right-of-use assets, net	$ 4,489,930	$ 4,984,688
Current portion of operating lease liability	708,762	646,742
Non-current portion of operating lease liability	4,004,667	4,532,490

During the three and nine months ended September 30, 2022, the Company recorded operating lease expense included in selling, general and administrative expenses of $261,069 and $777,854, respectively. During the three and nine months ended September 30, 2021, the Company recorded operating lease expense of $258,392 and $775,177, respectively.

Future maturities of the operating lease liability are as follows:

Remainder of 2022	$ 248,680
2023	1,024,381
2024	1,054,935
2025	1,084,833
2026	1,112,903
Thereafter	1,146,290
Total lease payments	**5,672,022**
Less amounts representing interest	(958,593)
Present value of lease liability	**$ 4,713,429**

The remaining weighted average lease term and discount rate of the operating leases is 63.4 months and 7.0%, respectively.

NOTE 8. INVENTORIES

Inventories, net of reserves, consisted of the following at September 30, 2022 and December 31, 2021:

	As of September 30, 2022	As of December 31, 2021
Raw materials	$ 649,421	$ 575,154
Work in process	34,964	15,803
Finished goods	-	1,215
Total	$ 684,385	$ 592,172

NOTE 9. NOTES PAYABLE

On June 30, 2017, the Company entered into an agreement with a vendor ("Vendor") to convert the balance of their account into a note payable in the amount of $250,000. The note bears interest of 5% per annum and matured on February 28, 2018. As of September 30, 2022, the Company had not made any payments on this note, the accrued interest was $65,685, and the note is due upon demand.

NOTE 10. CONVERTIBLE NOTES

The following table provides a summary of the activity of the Company's unsecured, convertible, promissory notes:

	Principal Balance 1/1/2022	New Notes	Notes assigned or exchanged	Notes converted	Principal Balance 9/30/2022
BD1 Notes (related party)	$ 9,900,000	$ —	$ (2,000,000)	$ (7,900,000)	$ —
Nanyang Note	500,000	—	1,000,000	(1,500,000)	—
Fleur Note	—	—	1,000,000	(1,000,000)	—
	$ 10,400,000	$ —	$ —	$ (10,400,000)	$ —

BD1 Convertible Note

On January 3, 2022, BD 1 Investment Holding, LLC ("BD1") sold and assigned $1,000,000 of its convertible notes ("BD1 Convertible Notes") to Fleur Capital Pte Ltd ("Fleur"). On January 21, 2022, BD1 sold and assigned $1,000,000 of its convertible notes to Nanyang Investment Management Pte Ltd ("Nanyang"). The aggregate remaining principal balance held by BD1 after these assignments was $7,900,000. On February 1, 2022, BD1 converted all of their remaining $7,900,000 aggregate outstanding principal amount into 15,800,000 shares of common stock. The remaining discount of approximately $1,721,000 was charged to interest expense upon conversion.

Nanyang Convertible Note

On January 21, 2022, as discussed above, BD1 assigned $1,000,000 of the BD1 Convertible Notes to Nanyang. This note does not bear any interest and will mature on December 18, 2025. Nanyang has the right, at any time until the note is fully paid, to convert any outstanding and unpaid principal into shares of common stock at a fixed conversion price equal to $0.50 per share. Shares of common stock may not be issued pursuant to this note if, after giving effect to the conversion or issuance, Nanyang, together with its affiliates, would beneficially own in excess of 4.99% of the outstanding shares of the Company's common stock. The discount on the principal is charged to interest expense, ratably, over the life of the note.

On February 2, 2022, Nanyang converted $600,000 of their convertible notes into 1,200,000 shares of common stock. The associated discount on the converted portion of the notes of approximately $133,000 was charged to interest expense.

In July 2022, the Company and Nanyang agreed to waive the 4.99% cap on securities beneficially owned by Nanyang and its affiliates. On July 11, 2022, Nanyang converted all of their remaining $900,000 balance of their convertible notes into 1,800,000 shares of common stock. The remaining associated discount of approximately $176,000 on the note was charged to interest expense.

Fleur Convertible Note

On January 21, 2022, as discussed above, BD1 assigned $1,000,000 of the BD1 Convertible Notes to Fleur. This note does not bear any interest and will mature on December 18, 2025. Fleur has the right, at any time until the note is fully paid, to convert any outstanding and unpaid principal into shares of common stock at a fixed conversion price equal to $0.50 per share. Shares of common stock may not be issued pursuant to this note if, after giving effect to the conversion or issuance, Fleur, together with its affiliates, would beneficially own in excess of 4.99% of the outstanding shares of the Company's common stock. The discount on the principal is charged to interest expense, ratably, over the life of the note.

On February 2, 2022, Fleur converted $700,000 of their convertible notes into 1,400,000 shares of common stock. The associated discount on the converted portion of the notes of approximately $155,000 was charged to interest expense. The discount on the remaining principal will be charged to interest expense, ratably, over the life of the note.

In July 2022, the Company and Fleur agreed to waive the 4.99% cap on securities beneficially owned by Fleur. On July 11, 2022, Fleur converted all of their remaining $300,000 balance of their convertible notes into 600,000 shares of common stock. The remaining associated discount of approximately $59,000 on the note was charged to interest expense.

NOTE 11. SERIES A PREFERRED STOCK

As of January 1, 2022, there were 48,100 shares of Series A Preferred Stock outstanding. Holders of Series A Preferred Stock are entitled to cumulative dividends at a rate of 8% per annum when and if declared by the Board of Directors at its sole discretion. The dividends may be paid in cash or in the form of common stock (valued at 10% below market price, but not to exceed the lowest closing price during the applicable measurement period), at the discretion of the Board of Directors. The dividend rate on the Series A Preferred Stock is indexed to the Company's stock price and subject to adjustment. In addition, the Series A Preferred Stock contains a make-whole provision whereby, conversion or redemption of the preferred stock within 4 years of issuance will require dividends for the full four year period to be paid by the Company in cash or common stock (valued at 10% below market price, but not to exceed the lowest closing price during the applicable measurement period). This make-whole provision expired in June 2017.

The Series A Preferred Stock may be converted into shares of common stock at the option of the Company if the closing price of the common stock exceeds $1,160,000, as adjusted, for twenty consecutive trading days, or by the holder at any time. The Company has the right to redeem the Series A Preferred Stock at a price of $8.00 per share, plus any accrued and unpaid dividends, plus the make-whole amount (if applicable). At September 30, 2022, the preferred shares were not eligible for conversion to common shares at the option of the Company. The holder of the preferred shares may convert to common shares at any time. After making adjustment for the Company’s prior reverse stock splits, all 48,100 outstanding Series A preferred shares are convertible into less than one common share. Upon any conversion (whether at the option of the Company or the holder), the holder is entitled to receive any accrued but unpaid dividends.

Except as otherwise required by law (or with respect to approval of certain actions), the Series A Preferred Stock shall have no voting rights. Upon any liquidation, dissolution or winding up of the Company, after payment or provision for payment of debts and other liabilities of the Company, the holders of Series A Preferred Stock shall be entitled to receive, pari passu with any distribution to the holders of common stock of the Company, an amount equal to $8.00 per share of Series A Preferred Stock plus any accrued and unpaid dividends.

As of September 30, 2022, there were 48,100 shares of Series A Preferred Stock outstanding and accrued and unpaid dividends of $453,209.

NOTE 12. SERIES 1A PREFERRED STOCK

Series 1A Preferred Stock – Tranche 1 Closing

As of January 1, 2022, there were 3,700 shares of Series 1A Preferred Stock outstanding; 1,300 shares owned by Crowdex Investment, LLC (“Crowdex”) and 2,400 shares owned by TubeSolar. Each share of Series 1A Preferred Stock has a stated value of $1,000 per share. Shares of the Series 1A Preferred Stock are convertible into common stock by dividing the stated value by the fixed conversion price equal to $0.50 per common share, subject to standard ratable anti-dilution adjustments.

Outstanding shares of Series 1A Preferred Stock are entitled to vote together with the holders of common stock as a single class (on an as-converted to common stock basis) on any matter presented to the stockholders of the Company for their action or consideration at any meeting of stock holders (or written consent of stockholders in lieu of meeting).

Holders of the Series 1A Preferred Stock are not entitled to any fixed rate of dividends. If the Company pays a dividend or otherwise makes a distribution payable on shares of common stock, holders of the Series 1A Preferred Stock will receive such dividend or distribution on an as-converted to common stock basis. There are no specified redemption rights for the Series 1A Preferred Stock. Upon liquidation, dissolution or winding up, holders of Series 1A Preferred Stock will be entitled to be paid out of our assets, prior to the holders of our common stock, an amount equal to $1,000 per share plus any accrued but unpaid dividends (if any) thereon.

On February 1, 2022 Crowdex and TubesSolar converted all of their remaining shares 1,300 and 2,400, respectively, of Series 1A Preferred Stock into 2,600,000 and 4,800,000, respectively shares of common stock.

NOTE 13. STOCKHOLDERS' EQUITY (DEFICIT)

Common Stock

At September 30, 2022, the Company had 500 million shares of common stock, $0.0001 par value, authorized for issuance. Each share of common stock has the right to one vote. As of September 30, 2022, the Company had 33,930,812 shares of common stock outstanding. The Company has not declared or paid any dividends related to the common stock during the nine month ended September 30, 2022 and 2021.

Private Placement Offering

On August 4, 2022, the Company received $1,000,000 of gross proceeds pursuant to an unsecured convertible promissory note (the "Bridge Note") sold and issued to Lucro Investments VCC – ESG Opportunities Fund ("Lucro"), an affiliate of Fleur. The Bridge Note matures on February 3, 2023 (the "Maturity Date") and does not bear interest (except in the event of a default). If the Company completes a "Qualified Financing", the $1 million outstanding principal amount of the Bridge Note will automatically convert into the type of securities offered by the Company in the Qualified Financing on the same pricing, terms and conditions as specified in the Qualified Financing. A Qualified Financing is defined as (i) the Company's issuance and sale of shares of its equity or equity-linked securities to investors, (ii) on or before the Maturity Date, (iii) in a financing with total proceeds to the Company of at least $5,000,000 (inclusive of the conversion of the $1,000,000 Bridge Note), and (iv) which financing would result in the listing of the Company's common stock on the Nasdaq Capital Market ("Nasdaq").

On August 8, 2022, the Company entered into a securities purchase agreement ("SPA") with Lucro for the private placement (the "Private Placement") of an aggregate of 943,397 shares (the "Shares") of the Company's common stock and warrants exercisable for up to an additional 1,415,095 shares of Common Stock (the "Warrants"). The Shares and Warrants were sold in units (the "Units") at a fixed price of $5.30 per Unit. Each Unit consists of (i) one Share and (ii) Warrants exercisable for 1.5 shares of Common Stock.

Each Warrant is exercisable for five years at an exercise price of $5.30 per one share of Common Stock. The holder may not exercise the Warrants to the extent that, after giving effect to such exercise, the holder would beneficially own in excess of 9.99% of the shares of Common Stock outstanding, or, at the holder's election on not less than 61 days' notice, 19.99%. The Warrants are exercisable for cash. If, at the time the holder exercises any Warrants, a registration statement registering the issuance of the shares of Common Stock underlying the Warrants is not then effective or available for the issuance of such shares, then the Warrants may be net exercised on a cashless basis according to a formula set forth in the Warrants. There were 1,415,905 warrants outstanding at December 31, 2022.

On August 19, 2022, the Company received $4,000,000 of gross proceeds from the Private Placement and the $1,000,000 Bridge Note was cancelled and converted into Common Stock and Warrants. The $5,000,000 was allocated between the Common Stock and Warrants purchased based on the relative fair value of these instruments. The fair value of the Common Stocks was determined using the closing price of the stock at close if the SPA and the fair value of the Warrants was determined using the Black Scholes model using the following inputs:

	Warrants
Expected stock price volatility	82%
Dividend yield	0%
Risk-free interest rate	3%
Expected life of the warrants (in years)	5

Preferred Stock

At September 30, 2022, the Company had 25 million shares of preferred stock, $0.0001 par value, authorized for issuance. Preferred stock may be issued in classes or series. Designations, powers, preferences, rights, qualifications, limitations and restrictions are determined by the Company's Board of Directors.

The following table summarizes the designations, shares authorized, and shares outstanding for the Company's Preferred Stock:

Preferred Stock Series Designation	Shares Authorized	Shares Outstanding
Series A	750,000	48,100
Series 1A	5,000	—
Series B-1	2,000	—
Series B-2	1,000	—
Series C	1,000	—
Series D	3,000	—
Series D-1	2,500	—
Series E	2,800	—
Series F	7,000	—
Series G	2,000	—
Series H	2,500	—
Series I	1,000	—
Series J	1,350	—
Series J-1	1,000	—
Series K	20,000	—

Series A Preferred Stock

Refer to Note 11 for Series A Preferred Stock activity.

Series 1A Preferred Stock

Refer to Note 12 for Series 1A Preferred Stock activity.

Series B-1, B-2, C, D, D-1, E, F, G, H, I, J, J-1, and K Preferred Stock

There were no transactions involving the Series B-1, B-2, C, D, D-1, E, F, G, H, I, J, J-1, or K during the three and nine months ended September 30, 2022 and 2021.

NOTE 14. SHARE-BASED COMPENSATION

On September 21, 2022, the Company's board of directors appointed Jeffrey Max as the Company's new Chief Executive Officer. As part of his employment agreement, the Company granted Mr. Max an inducement grant of restricted stock units ("RSUs") for an aggregate of 3,534,591 shares of Ascent's common stock. 20% of the RSUs are fully vested upon grant. The remaining 80% of the RSUs vests in equal monthly increments over the next 36 months. Any outstanding and unvested RSUs will accelerate and fully vest upon the earlier of (i) a change of control and (ii) the termination of Mr. Max's employment for any reason other than (x) by the Company for cause or (y) by Mr. Max without good reason.

The estimated fair value of the restricted stock unit is $5.37, the closing price at grant date. As of September 30, 2022, approximately 707,000 shares vested under this agreement and the Company recognized approximately $3,796,000 in share-based compensation expense during the three months ended September 30, 2022. The RSUs will settle in eight equal increments on the last business day of each calendar quarter beginning with the initial settlement date of September 30, 2024. As of September 30, 2022, total unrecognized share-based compensation expense from unvested restricted stock was approximately $15,185,000 (or approximately 2,828,000 shares) and will be recognized over the remaining vesting period of 36 months.

NOTE 15. COMMITMENTS AND CONTINGENCIES

On September 21, 2022, the Company and Mr. Lee entered into a Separation Agreement and Release of Claims September 21, 2022 (the "Separation Agreement"). Under the Separation Agreement Mr. Lee is entitled, subject to his non-revocation of a general release of claims in favor of the Company, to the following separation benefits: (i) payment of twelve (12) months' salary equal to $360,000 , which amount shall be payable in accordance with the Company's customary payroll practices and regular payroll time periods as in effect from time to time; (ii) the Company will pay Mr. Lee’s $200,000 declared but unpaid cash bonus in two installments; and (iii) the Company shall pay COBRA premiums at the Company’s current contribution level for the next 12 months. The Company accrued liabilities of approximately $590,000 included in Accrued Expenses on the Condense Consolidated Balance Sheet as of September 30, 2022.

The Company is subject to various legal proceedings, both asserted and unasserted, that arise in the ordinary course of business. The Company cannot predict the ultimate outcome of such legal proceedings or in certain instances provide reasonable ranges of potential losses. However, as of the date of this report, the Company believes that none of these claims will have a material adverse effect on its consolidated financial position or results of operations. In the event of unexpected subsequent developments and given the inherent unpredictability of these legal proceedings, there can be no assurance that the Company’s assessment of any claim will reflect the ultimate outcome, and an adverse outcome in certain matters could, from time to time, have a material adverse effect on the Company’s consolidated financial position or results of operations in particular quarterly or annual periods.

NOTE 16. SUBSEQUENT EVENTS

There were no events subsequent to September 30, 2022 to report as of this filing on November 10, 2022.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion of our financial condition and results of operations should be read in conjunction with our unaudited financial statements and the notes to those financial statements appearing elsewhere in this Form 10-Q and our audited financial statements and related notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2021, which was filed with the SEC on March 14, 2022. This discussion and analysis contains statements of a forward-looking nature relating to future events or our future financial performance. As a result of many factors, our actual results may differ materially from those anticipated in these forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. You should carefully read the "Risk Factors" section of this Quarterly Report and of our Annual Report on Form 10-K for the year ended December 31, 2021 to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements. Please also see the section entitled "Forward-Looking Statements."

Overview

We target high-volume production and high-value specialty solar markets. These include agrivoltaics, space, aerospace and high-value niche manufacturing/construction sectors. This strategy enables us to fully leverage what we believe are the unique advantages of our technology, including flexibility, durability and attractive power to weight and power to area performance. It further enables us to offer unique, differentiated solutions in large markets with less competition, and more attractive pricing.

Specifically, we focus on commercializing our proprietary solar technology in two high-value PV verticals:

I. Aerospace: Space, Near-space and Fixed Wing UAV
II. Agrivoltaics

We believe the value proposition of Ascent's proprietary solar technology not only aligns with the needs of customers in these verticals, but also overcomes many of the obstacles other solar technologies face in these unique markets. Ascent has the capability to design and develop finished products for end users in these areas as well as collaborate with strategic partners to design and develop custom integrated solutions for products like airships and fixed-wing UAVs. Ascent sees significant overlap in the needs of end users across some of these verticals and believes it can achieve economies of scale in sourcing, development, and production in commercializing products for these customers.

The integration of Ascent's solar modules into space, near space, and aeronautic vehicles with ultra-lightweight and flexible solar modules is an important market opportunity for the Company. Customers in this market have historically required a high level of durability, high voltage and conversion efficiency from solar module suppliers, and we believe our products are well suited to compete in this premium market.

For the nine months ended September 30, 2022, we generated $1,210,125 of total revenue. As of September 30, 2022, we had an accumulated deficit of $442,303,388.

In March 2018, we collaborated with a European based customer for their lighter-than-air, helium-filled airship project, which was based on our newly developed ultra-light modules with substrate material that was half of the thickness of our standard modules. In 2019, we completed a repeat order from the same customer who had since established its airship development operation in the US. In 2020, we received a third and enlarged order from the same customer and completed the order in the second quarter of 2021. Most recently, in the 4th quarter of 2021 we received a fourth order that was fulfilled during the 2nd quarter of 2022.

On September 15, 2021, the Company entered into a Long-Term Supply and Joint Development Agreement ("JDA") with TubeSolar, a significant existing stakeholder in the Company. See "Principal Stockholders," and "Certain Transactions." Under the terms of the JDA, the Company will produce, and TubeSolar will purchase, thin-film PV foils ("PV Foils") for use in TubeSolar's solar modules for agricultural photovoltaic ("APV") applications that require solar foils for its production. Under the JDA, the Company will receive (i) up to $4 million of non-recurring engineering ("NRE") fees, (ii) up to $13.5 million of payments upon achievement of certain agreed upon production and cost structure milestones, and (iii) product revenues from sales of PV Foils to TubeSolar. The JDA has no fixed term, and may only be terminated by either party for breach.

The Company and TubeSolar have also jointly established a subsidiary company in Germany, in which TubeSolar holds a minority stake of 30% (the "JV"). The purpose of the JV is to establish and operate a PV manufacturing facility in Germany that will produce and deliver PV Foils exclusively to TubeSolar. Until the JV facility is fully operational, PV Foils will be manufactured in the Company's existing facility in Thornton, Colorado. The parties expect to jointly develop next generation tooling for use in manufacturing PV Foils at the JV facility. The Company purchased 17,500 shares of the JV for 1 Euro per share, on November 10, 2021.

Due to the high durability enabled by the monolithic integration employed by our technology, the capability to customize modules into different form factors and what we believe is the industry leading light weight and flexibility provided by our modules, we believe that the potential applications for our products are extensive, including integrated solutions anywhere that may need power generation such as vehicles in space or in flight, or dual-use installations on agricultural land.

Commercialization and Manufacturing Strategy

We manufacture our products by affixing a thin CIGS layer to a flexible, plastic substrate using a large format, roll-to-roll process that permits us to fabricate our flexible PV modules in an integrated sequential operation. We use proprietary monolithic integration techniques which enable us to form complete PV modules with little to no back-end assembly cost of inter- cell connections. Traditional PV manufacturers assemble PV modules by bonding or soldering discrete PV cells together. This manufacturing step typically increases manufacturing costs and at times proves detrimental to the overall yield and reliability of the finished product. By reducing or eliminating this added step using our proprietary monolithic integration techniques, we believe we can achieve cost savings in, and increase the reliability of, our PV modules. All tooling necessary for us to meet our near-term production requirements is installed in our Thornton, Colorado plant.

We plan to continue the development of our current PV technology to increase module efficiency, improve our manufacturing tooling and process capabilities and reduce manufacturing costs. We also plan to continue to take advantage of research and development contracts to fund a portion of this development.

Significant Trends, Uncertainties and Challenges

We believe the significant trends, uncertainties and challenges that directly or indirectly affect our financial performance and results of operations include:

- The impact of the novel coronavirus ("COVID-19") pandemic on our business, results of operations, cash flows, financial condition and liquidity;
- Our operating history and lack of profitability;
- Our ability to develop demand for, and sales of, our products;
- Our ability to attract and retain qualified personnel to implement our business plan and corporate growth strategies;
- Our ability to develop sales, marketing and distribution capabilities;
- Our ability to successfully develop and maintain strategic relationships with key partners;
- The accuracy of our estimates and projections;
- Our ability to secure additional financing to fund our short-term and long-term financial needs;
- Our ability to maintain the listing of our common stock on the Nasdaq Capital Markets;
- The commencement, or outcome, of legal proceedings against us, or by us, including ongoing litigation proceedings;
- Changes in our business plan or corporate strategies;
- The extent to which we are able to manage the growth of our operations effectively, both domestically and abroad, whether directly owned or indirectly through licenses;
- The supply, availability and price of equipment, components and raw materials, including the elements needed to produce our photovoltaic modules;
- Our ability to expand and protect the intellectual property portfolio that relates to our photovoltaic modules and processes;

- Our ability to maintain effective internal controls over financial reporting;
- Our ability to achieve projected operational performance and cost metrics; and
- General economic and business conditions, and in particular, conditions specific to the solar power industry.

Basis of Presentation: The accompanying unaudited condensed consolidated financial statements have been derived from the accounting records of Ascent Solar Technologies, Inc. as of September 30, 2022 and December 31, 2021, and the results of operations for the three and nine months ended September 30, 2022 and 2021. Ascent Solar (Asia) Pte. Ltd., a wholly owned by Ascent Solar Technologies, Inc., was closed in 2022. All significant inter-company balances and transactions have been eliminated in the accompanying condensed consolidated financial statements.

Critical Accounting Policies and Estimates

Critical accounting policies used in reporting our financial results are reviewed by management on a regular basis. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. Processes used to develop these estimates are evaluated on an ongoing basis. Estimates are based on historical experience and various other assumptions that are believed to be reasonable for making judgments about the carrying value of assets and liabilities. Actual results may differ as outcomes from assumptions may change.

The Company's significant accounting policies were described in Note 3 to the audited financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2021. There have been no significant changes to our accounting policies as of September 30, 2022.

Results of Operations

Comparison of the Three Months Ended September 30, 2022 and 2021

	Three Months Ended September 30,		
	2022	2021	$ Change
Revenues			
Products	$ 6,344	$ 11,723	$ (5,379)
Milestone and engineering	-	-	-
Total Revenues	6,344	11,723	(5,379)
Costs and Expenses			
Cost of Revenue	409,819	687,885	(278,066)
Research, development and manufacturing operations	1,540,170	1,086,513	453,657
Selling, general and administrative	1,890,218	882,641	1,007,577
Share-based compensation	3,796,151	-	3,796,151
Depreciation and amortization	20,497	15,111	5,386
Total Costs and Expenses	7,656,855	2,672,150	4,984,705
Loss From Operations	(7,650,511)	(2,660,427)	(4,990,084)
Other Income/(Expense)			
Other income/(expense), net	20,000	67,644	(47,644)
Interest Expense	(252,571)	(167,983)	(84,588)
Change in fair value of derivatives and gain/(loss) on extinguishment of liabilities	-	195,852	(195,852)
Total Other Income/(Expense)	(232,571)	95,513	(328,084)
Income/(Loss) on Equity Method Investments	(27,484)	-	(27,484)
Net (Loss)/Income	$ (7,910,566)	$ (2,564,914)	$ (5,345,652)

Comparison of the Three Months Ended September 30, 2022 and 2021

Total Revenues. Our total revenues decreased slightly by $5,379, or 46%, for the three months ended September 30, 2022 when compared to the same period in 2021.

Cost of revenue. Cost of revenues is primarily comprised of repair and maintenance, material costs, and direct labor and overhead expenses. Our Cost of revenues decreased by $278,066, or 40%, for the three months ended September 30, 2022 when compared to the same period in 2021. This is due primarily to the decrease in repair and maintenance in the current period when compared to the same period in 2021. In late 2021, the Company incurred significant repair and maintenance costs to restart its manufacturing equipment. Management believes our factory is significantly under-utilized, and a substantial increase in revenue would result in marginal increases to Direct Labor and Overhead included in the Cost of revenues. As such management's continued focus going forward is to improve gross margin through increased sales and improved utilization of our factory.

Research, development and manufacturing operations. Research, development and manufacturing operations costs include costs incurred for product development, pre-production and production activities in our manufacturing facility. Research, development and manufacturing operations costs also include costs related to technology development. Research, development and manufacturing operations costs increased by $453,657, or 42%, for the three months ended September 30, 2022 when compared to the same period in 2021. This is due primarily to an increase in personnel and other operating costs as a result of increased level of operations in the current period as compared to the Company's restart status in the same period in 2021.

Selling, general and administrative. Selling, general and administrative expenses increased by $1,007,577, or 114%, for the three months ended September 30, 2022 when compared to the same period in 2021. The increase in costs is due primarily to a one-time termination expense of approximately $500,000 recognized with the departure of our former CEO and increased administrative costs.

Share-based compensation. Share-based compensation expense increased by $3,796,151 or 100% for the three months ended September 30, 2022 when compared to the same period in 2021. The increase is due to the employment agreement between the Company and the new CEO for vested restricted stock units.

Other Income/Expense. Other expense was $232,571 for the three months ended September 30, 2022, compared to other income of $95,513 for the same period in 2021, a decline of $328,084. The decline is due primarily to a one time gain recognized in 2021 not repeated in 2022, partially offset by an increase in interest expense due to the convertible debt conversions and the accelerated recognition of debt discount.

Net Loss. Our Net Loss increased by $5,345,652, or 208%, for the three months ended September 30, 2022 compared to the same period in 2021 due primarily to the items mentioned above.

Comparison of the nine months ended September 30, 2022 and 2021

	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021	$ Change
Revenues			
Product Revenue	$ 688,125	$ 557,369	$ 130,756
Milestone and engineering	522,000	-	522,000
Total Revenues	1,210,125	557,369	652,756
Costs and Expenses			
Cost of Revenue	1,519,703	1,184,528	335,175
Research, development and manufacturing operations	4,399,765	2,716,395	1,683,370
Selling, general and administrative	3,583,366	2,244,771	1,338,595
Share-based compensation	3,796,151	-	3,796,151
Depreciation and amortization	54,998	40,047	14,951
Total Costs and Expenses	13,353,983	6,185,741	7,168,242
Loss From Operations	(12,143,858)	(5,628,372)	(6,515,486)
Other Income/(Expense)			
Other Income/(Expense), net	22,000	68,443	(46,443)
Interest Expense	(2,371,256)	(899,533)	(1,471,723)
Change in fair value of derivatives and gain/(loss) on extinguishment of liabilities	-	4,047,993	(4,047,993)
Total Other Income/(Expense)	(2,349,256)	3,216,903	(5,566,159)
Income/(Loss) on Equity Method Investments	(27,486)	-	(27,486)
Net (Loss)/Income	$ (14,520,600)	$ (2,411,469)	$ (12,109,131)

Comparison of the nine months ended September 30, 2022 and 2021

Total Revenues. Our total revenues increased by $652,756, or 117%, for the nine months ended September 30, 2022 when compared to the same period in 2021, due primarily to the increased order from a repeat customer and NRE fees from TubeSolar in the current period.

Cost of revenue. Cost of revenues is primarily comprised of repair and maintenance, direct labor, and overhead expenses. Our Cost of revenues increased by $335,175, or 28%, for the nine months ended September 30, 2022 when compared to the same period in 2021. This is due primarily to the increase in repair and maintenance, materials and freight, personnel, and other operating costs as a result of an increase in operations during the nine months ended September 30, 2022 when compared to the same period in 2021. Management believes our factory is significantly under-utilized, and a substantial increase in revenue would result in marginal increases to Direct Labor and Overhead included in the Cost of revenues. As such management's continued focus going forward is to improve gross margin through increased sales and improved utilization of our factory.

Research, development and manufacturing operations. Research, development and manufacturing operations costs include costs incurred for product development, pre-production and production activities in our manufacturing facility. Research, development and manufacturing operations costs also include costs related to technology development. Research, development and manufacturing operations costs increased by $1,683,370, or 62%, for the nine months ended September 30, 2022 when compared to the same period in 2021. This is due primarily to an increase in repair and maintenance, personnel and other operating costs as a result of increased level of operations in the current period as compared to the Company's restart status in the same period in 2021.

Selling, general and administrative. Selling, general and administrative expenses increased by $1,338,595, or 60%, for the nine months ended September 30, 2022 when compared to the same period in 2021. The increase in costs is due primarily to increased administrative costs in the current period as compared to the Company's restart status in the same period in 2021.

Additionally, the Company incurred a one-time termination expense of approximately $500,000 recognized with the departure of our former CEO in the current period and increased administrative costs.

Share-based compensation. Share-based compensation expense increased by $3,796,151 or 100% for the three months ended September 30, 2022 when compared to the same period in 2021. The increase is due primarily to the employment agreement between the Company and the new CEO for vested restricted stock units.

Other Income/Expense. Other expense was $2,349,256 for the nine months ended September 30, 2022, compare to other income of $3,216,903 in the same period 2021, a decline of $5,566,159. The decline is due primarily to a gain from the change in fair value of derivative liabilities recognized in the prior period and not repeated in the current period, and additionally, as a result of the Company accelerating the amortization of approximately $2 million in convertible debt discount and recognizing it as interest expense upon conversion of certain notes to equity in the current period.

Net Loss. Our Net Loss was $14,520,600 for the nine months ended September 30, 2022, compared to Net Loss of $2,411,469 in the same period in 2021, a decline of $12,109,131. The decline is due primarily to the items mentioned above.

Liquidity and Capital Resources

The Company has continued limited PV production at its manufacturing facility. The Company does not expect that sales revenue and cash flows will be sufficient to support operations and cash requirements until it has fully implemented its product strategy. During the nine months ended September 30, 2022 the Company used $7,925,786 in cash for operations.

Additional projected total revenues are not anticipated to result in a positive cash flow position for the year overall and, as of September 30, 2022, the Company has working capital deficit of $59,948. As such, cash liquidity would not be sufficient for the next twelve months and will require additional financing.

The Company has begun activities related to securing additional financing through strategic or financial investors, but there is no assurance the Company will be able to raise additional capital on acceptable terms or at all. If the Company’s revenues do not increase rapidly, and/or additional financing is not obtained, the Company will be required to significantly curtail operations to reduce costs and/or sell assets. Such actions would likely have an adverse impact on the Company's future operations.

As a result of the Company’s recurring losses from operations, and the need for additional financing to fund its operating and capital requirements, there is uncertainty regarding the Company’s ability to maintain liquidity sufficient to operate its business effectively, which raises doubt as to the Company’s ability to continue as a going concern.

Management cannot provide any assurances that the Company will be successful in accomplishing any of its plans. These condensed consolidated financial statements do not include any adjustments that might be necessary should the Company be unable to continue as a going concern.

Statements of Cash Flows Comparison of the Nine Months Ended September 30, 2022 and 2021

For the nine months ended September 30, 2022, our cash used in operations was $7,925,786 compared to $6,227,813 for the nine months ended September 30, 2021, an increase of $1,697,973. The increase is due primarily to the scaling up of operations during the current period as compared to the Company’s restart status in the 2021 nine months period. For the nine months ended September 30, 2022, cash used in investing activities was $185,703 compared to $96,738 used in investing activities for the nine months ended September 30, 2021. This change was due primarily to the Company investing in Ascent Germany and purchasing new PP&E in the current period. During the nine months ended September 30, 2022, net cash used in operations of $7,925,786 were primarily funded through the proceeds from issuances of preferred and common stock during 2022 and 2021.

Off Balance Sheet Transactions

As of September 30, 2022, we did not have any off-balance sheet arrangements as defined in Item 303(a)(4)(ii) of Regulation S-K.

Smaller Reporting Company Status

We are a “smaller reporting company” meaning that the market value of our stock held by non-affiliates is less than $700 million and our annual revenue was less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than $250 million or (ii) our annual revenue was less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 million. As a smaller reporting company, we may rely on exemptions from certain disclosure requirement that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and smaller reporting companies have reduced disclosure obligations regarding executive compensation.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency Exchange Risk

We hold no significant funds and have no significant future obligations denominated in foreign currencies as of September 30, 2022.

Although our reporting currency is the U.S. Dollar, we may conduct business and incur costs in the local currencies of other countries in which we may operate, make sales and buy materials. As a result, we are subject to currency translation risk. Further, changes in exchange rates between foreign currencies and the U.S. Dollar could affect our future net sales and cost of sales and could result in exchange losses.

Interest Rate Risk

Our exposure to market risks for changes in interest rates relates primarily to our cash equivalents and investment portfolio. As of September 30, 2022, our cash equivalents consisted only of operating accounts held with financial institutions. From time to time, we may hold restricted funds, money market funds, investments in U.S. government securities and high-quality corporate securities. The primary objective of our investment activities is to preserve principal and provide liquidity on demand, while at the same time maximizing the income we receive from our investments without significantly increasing risk. The direct risk to us associated with fluctuating interest rates is limited to our investment portfolio, and we do not believe a change in interest rates will have a significant impact on our financial position, results of operations, or cash flows.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to ensure that information required to be disclosed in our reports filed or submitted under the Securities Exchange Act of 1934, as amended (the “Exchange Act”) is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms. Our disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosures. Our management conducted an evaluation required by Rules 13a-15 and 15d-15 under the Exchange Act of the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15 and 15d-15 under the Exchange Act as of September 30, 2022. Based on this evaluation, our management concluded the design and operation of our disclosure controls and procedures were effective as of September 30, 2022.

Changes in Internal Control Over Financial Reporting

There were no changes in internal control over financial reporting during the nine months ended September 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. We are not currently aware of any such proceedings or claims that we believe will have, individually or in the aggregate, a material adverse effect on our business, financial condition or results of operations.

Item 1A. Risk Factors

The COVID-19 pandemic in the United States and world-wide has caused business disruption which may negatively impact the Company's operations and results. While the disruption is currently expected to be temporary, there is considerable uncertainty around the duration. It is therefore likely there will be an impact on the Company's operating activities and results. However, the related financial impact and duration cannot be reasonably estimated at this time.

In addition to the information set forth in this Form 10-Q, you should carefully consider the risk factors disclosed under the heading "Risk Factors" in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2021. There have been no material changes to our risk factors from those included in our Annual Report on Form 10-K for the year ended December 31, 2021.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Not required.

Issuer Purchases of Equity Securities

We did not repurchase any of our equity securities during the nine months ended September 30, 2022.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

The exhibits listed on the accompanying Index to Exhibits on this Form 10-Q are filed or incorporated into this Form 10-Q by reference.

EXHIBIT INDEX

Exhibit No.	Description
3.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.2 to our Registration Statement on Form SB-2 filed on January 23, 2006 (Reg. No. 333-131216))
3.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2011)
3.3	Certificate of Amendment to the Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed February 11, 2014)
3.4	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated August 26, 2014. (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed September 2, 2014)
3.5	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated October 27, 2014 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K dated October 28, 2014)
3.6	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated December 22, 2014. (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K dated December 23, 2014)
3.7	Second Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to our Current Report on Form 8-K filed on February 17, 2009)
3.8	First Amendment to Second Amended and Restated Bylaws (incorporated by reference to Exhibit 3.3 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2009)
3.9	Second Amendment to Second Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed January 25, 2013)
3.10	Third Amendment to Second Amended and Restated Bylaws (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed December 18, 2015)
3.11	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated May 26, 2016 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed June 2, 2016)
3.12	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated September 15, 2016 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed September 16, 2016)
3.13	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated March 16, 2017 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed March 17, 2017)
3.14	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated July 19, 2018 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed July 23, 2018)
3.15	Certificate of Designations of Preferences, Rights, and Limitations of Series 1A Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed September 30, 2020)
3.16	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated September 23, 2021 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed September 24, 2021)

3.17	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company, dated January 27, 2022 (incorporated by reference to Exhibit 3.1 to our Current Report on Form 8-K filed February 2, 2022)
4.1	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 to our Registration Statement on Form SB-2/A filed on June 6, 2006 (Reg. No. 333-131216))
4.2	Certificate of Designations of Series A Preferred Stock (filed as Exhibit 4.2 to our Registration Statement on Form S-3 filed July 1, 2013 (Reg. No. 333-189739))
4.3	Description of Securities (incorporated by reference to Exhibit 4.3 to our Annual Report on Form 10-K filed May 13, 2021)
10.1 CTR	Securities Purchase Agreement, dated January 17, 2006, between the Company and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.1 to our Registration Statement on Form SB-2 filed on January 23, 2006 (Reg. No. 333-131216))
10.2 CTR	Invention and Trade Secret Assignment Agreement, dated January 17, 2006, between the Company and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.2 to our Registration Statement on Form SB-2 filed on January 23, 2006 (Reg. No. 333-131216))
10.3	Patent Application Assignment Agreement, dated January 17, 2006, between the Company and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.3 to our Registration Statement on Form SB-2 filed on January 23, 2006 (Reg. No. 333-131216))
10.4 CTR	License Agreement, dated January 17, 2006, between the Company and ITN Energy Systems, Inc. (incorporated by reference to Exhibit 10.4 to our Registration Statement on Form SB-2 filed on January 23, 2006 (Reg. No. 333-131216))
10.5	Letter Agreement, dated November 23, 2005, among the Company, ITN Energy Systems, Inc. and the University of Delaware (incorporated by reference to Exhibit 10.16 to our Registration Statement on Form SB-2/A filed on May 26, 2006 (Reg. No. 333-131216))
10.6 CTR	License Agreement, dated November 21, 2006, between the Company and UD Technology Corporation (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on November 29, 2006)
10.7	Novation Agreement, dated January 1, 2007, among the Company, ITN Energy Systems, Inc. and the United States Government (incorporated by reference to Exhibit 10.23 to our Annual Report on Form 10-KSB for the year ended December 31, 2006)
10.8†	Executive Employment Agreement, dated April 4, 2014, between the Company and Victor Lee (filed as Exhibit 10.1 to our Current Report on Form 8-K filed on April 9, 2014)
10.9†	Seventh Amended and Restated 2005 Stock Option Plan (incorporated by reference to Annex B of our definitive proxy statement dated April 22, 2016)
10.10†	Seventh Amended and Restated 2008 Restricted Stock Plan Stock Option Plan Plan (incorporated by reference to Annex A of our definitive proxy statement dated April 22, 2016)
10.11+	Industrial Lease for 12300 Grant Street, Thornton, Colorado dated September 21, 2020 (incorporated by reference to Exhibit 10.50 to our Annual Report on Form 10-K filed January 29, 2021)
10.12+	Long-Term Supply and Joint Development Agreement dated September 15, 2021 (incorporated by reference to Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2021)
10.13	Fleur Capital Unsecured Convertible Promissory Note dated January 3, 2022 (incorporated by reference to Exhibit 10.13 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022)
10.14	Nanyang Unsecured Convertible Promissory Note dated January 21, 2022 (incorporated by reference to Exhibit 10.14 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022)
10.15	Bridge Promissory Note dated August 3, 2022 (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on August 8, 2022)

10.16	Securities Purchase Agreement dated August 8, 2022 (incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed on August 8, 2022)
10.17	Form of Common Stock Warrant Related to Securities Purchase Agreement dated August 8, 2022 (incorporated by reference to Exhibit 10.3 to our Current Report on Form 8-K filed on August 8, 2022)
10.18	Common Stock Warrant dated August 19, 2022 (incorporated by reference to Exhibit 10.3 to our Current Report on Form 8-K filed on August 19, 2022)
10.19	Separation Agreement and Release of Claims between the Company and Victor Lee dated September 21, 2022 (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on September 22, 2022)
10.20 CTR	Employment Agreement between the Company and Jeffrey Max dated September 21, 2022 (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed on September 27, 2022)
31.1*	Chief Executive Officer Certification pursuant to section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Chief Financial Officer Certification pursuant to section 302 of the Sarbanes-Oxley Act of 2002
32.1*	Chief Executive Officer Certification pursuant to section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Chief Financial Officer Certification pursuant to section 906 of the Sarbanes-Oxley Act of 2002
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)
*	Filed herewith
CTR	Portions of this exhibit have been omitted pursuant to a request for confidential treatment.
†	Denotes management contract or compensatory plan or arrangement.
+	Certain portions of the exhibit have been omitted pursuant to Rule 601(b)(10) of Regulation S-K. The omitted information is (i) not material and (ii) would likely cause competitive harm to the Company if publicly disclosed.

ASCENT SOLAR TECHNOLOGIES, INC.

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, thereunto duly authorized on the 10th day of November, 2022.

November 10, 2022	By:	/s/ JEFFREY A. MAX
		Jeffrey A. Max President and Chief Executive Officer (Principal Executive Officer)
November 10, 2022	By:	/s/ MICHAEL J. GILBRETH
		Michael J. Gilbreth Chief Financial Officer (Principal Financial and Accounting Officer)

Exhibit 31.1

ASCENT SOLAR TECHNOLOGIES, INC.

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeffrey Max, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ascent Solar Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

November 10, 2022

/s/ JEFFREY A. MAX

Jeffrey A. Max
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

ASCENT SOLAR TECHNOLOGIES, INC.

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael J. Gilbreth, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ascent Solar Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

November 10, 2022

By: /s/ MICHAEL J. GILBRETH
Michael J. Gilbreth
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

ASCENT SOLAR TECHNOLOGIES, INC.

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350 AS ADOPTED PURSUANT
TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Ascent Solar Technologies, Inc. (the “Company”) on Form 10-Q for the period ended September 30, 2022 as filed with the Securities and Exchange Commission on the date therein specified (the “Report”), I, Jeffrey A. Max, President, Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1 The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2 The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

November 10, 2022

/s/ JEFFREY A. MAX

Jeffrey A. Max
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

ASCENT SOLAR TECHNOLOGIES, INC.

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350 AS ADOPTED PURSUANT
TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Ascent Solar Technologies, Inc. (the "Company") on Form 10-Q for the period ended September 30, 2022 as filed with the Securities and Exchange Commission on the date therein specified (the "Report"), I, Michael J. Gilbreth, Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1 The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2 The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

November 10, 2022

By: /s/ MICHAEL J. GILBRETH

Michael J. Gilbreth
Chief Financial Officer
(Principal Financial and Accounting Officer)