Ascent Solar Technologies, Inc.
Form 424B4
July 11, 2006

Use these links to rapidly review the document
TABLE OF CONTENTS
INDEX TO FINANCIAL STATEMENTS

Filed Pursuant to 424(b)(4)
Commission File No. 333-131216

PROSPECTUS

3,000,000 Units
Each unit consisting of one share of common stock, one redeemable Class A warrant and two non-redeemable Class B warrants

This is a firm commitment initial public offering of 3,000,000 units by Ascent Solar Technologies, Inc. Each unit consists of one share of common stock, one redeemable Class A warrant and two non-redeemable Class B warrants, each warrant to purchase one share of common stock. The common stock and warrants will trade only as part of a unit through August 9, 2006, which is 30 days following the date of this prospectus, after which the common stock and public warrants each will trade separately.

Prior to this offering, there has been no public market for our securities. The units, the common stock, the Class A warrants and the Class B warrants will be listed and traded on the Nasdaq Capital Market under the symbols ASTIU, ASTI, ASTIW and ASTIZ, respectively, and on the Boston Stock Exchange under the symbols AKC/U, AKC, AKC&L and AKC&Z, respectively.

The initial public offering price of our units will be $5.50 per unit.

These are speculative securities. Investing in these units involves significant risks. You should purchase these securities only if you can afford a complete loss of your investment. See "Risk Factors" beginning on page 5.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

	Per Unit	Total
Public offering price	$ 5.50	$ 16,500,000
Underwriting discount	$ 0.36575	$ 1,097,250
Proceeds to us, before expenses	$ 5.13425	$ 15,402,750

The expenses for this offering will include (in addition to the underwriting discount) a non-accountable expense allowance of 3% of the gross proceeds of this offering payable to Paulson Investment Company, Inc. Additionally, we have granted the underwriters a 45-day option to purchase up to an additional 450,000 units to cover over-allotments and have agreed to issue the representative of the underwriters a warrant to purchase up to 300,000 units.

Paulson Investment Company, Inc.

The date of this prospectus is July 10, 2006

TABLE OF CONTENTS

PROSPECTUS SUMMARY

RISK FACTORS

FORWARD-LOOKING STATEMENTS

USE OF PROCEEDS

DIVIDEND POLICY

CAPITALIZATION

DILUTION

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

PROPOSED BUSINESS

MANAGEMENT

PRINCIPAL STOCKHOLDERS

RELATED PARTY TRANSACTIONS

DESCRIPTION OF SECURITIES

SHARES ELIGIBLE FOR FUTURE SALE

UNDERWRITING

LEGAL MATTERS

EXPERTS

WHERE YOU CAN FIND MORE INFORMATION

INDEX TO FINANCIAL STATEMENTS

Until August 4, 2006 (the 25th day after the date of this prospectus), all dealers effecting transactions in our units, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Notice to Arizona investors: Each purchaser of units in Arizona must meet one of the following suitability standards: (1) annual gross income of at least $100,000 ($150,000 when combined with spouse) with a reasonable expectation of such income in the current year; or (2) minimum net worth of at least $250,000 ($300,000 when combined with spouse), exclusive of home, home furnishings and automobiles, with the investment not exceeding 10% of the net worth of the investor, together with spouse, if applicable.

Notice to California investors: Each purchaser of units in California must meet one of the following suitability standards: (1) annual gross income of at least $65,000 and liquid net worth of at least $250,000 (exclusive of home, home furnishings and automobiles); (2) liquid net worth of at least $500,000 (exclusive of home, home furnishings and automobiles); (3) net worth of at least $1,000,000 (inclusive of home, home furnishings and automobiles); or (4) annual gross income of at least $200,000. This offering was approved in California on the basis of a limited offering qualification where offers/sales can only be made to investors who meet the foregoing suitability standards. The company did not

have to demonstrate compliance with some or all of the merit regulations of the Department of Corporations as found in Title 10, California Code of Regulations, Rule 260.140 et seq. Furthermore, the exemptions for secondary trading available under California Corporations Code Section 25104(h) will be withheld, but there may be other exemptions available to cover private sales.

Notice to New Jersey investors: Each purchaser of units in New Jersey must meet one of the following suitability standards: (1) annual gross income of at least $65,000 and liquid net worth of at least $250,000 (exclusive of home, home furnishings and automobiles); (2) liquid net worth of at least $500,000 (exclusive of home, home furnishings and automobiles); (3) net worth of at least $1,000,000 (inclusive of home, home furnishings and automobiles); or (4) annual gross income of at least $200,000. Furthermore, there will be no secondary sales of the securities to persons in New Jersey who do not meet the foregoing suitability standards for 90 days after the date of this offering.

PROSPECTUS SUMMARY

This is only a summary and does not contain all the information that may be important to you. You should read the more detailed information contained in this prospectus, including the risk factors beginning on page 5. References to "we," "us," "our," "Ascent" or the "Company" mean Ascent Solar Technologies, Inc.

Our Company

Ascent, a development stage company, was formed in October 2005 to commercialize certain photovoltaic ("PV") technology developed by ITN Energy Systems, Inc. ("ITN") for space and near-space applications. By leveraging this technology inherited from ITN, we intend to be the first company to manufacture PV modules in commercial quantities that use a highly efficient thin-film Copper-Indium-Gallium-diSelenide ("CIGS") absorbing layer on a flexible high-temperature plastic substrate. We have produced and tested small-scale demonstration samples of our CIGS PV products at the laboratory level, but we have not yet produced any products in commercial quantities nor have we yet received any revenues from the proposed products that we intend to commercialize as our principal business activity. We intend to use the majority of the net proceeds of this offering to establish a production line that will enable us to transition into full-scale, commercial manufacturing of our CIGS PV products.

When used on space satellites and near-space aircraft, PV devices convert sunlight into the electricity needed to reliably power instruments, communications systems and the like. Currently, most PV devices used for space and near-space applications are rigid, bulky and relatively heavy, posing significant challenges to scientists and designers wishing to minimize volume and weight in order to maximize payload and reduce deployment costs. In addition to these shortcomings, PV devices traditionally used for such applications are expensive to manufacture and require the time-consuming and labor-intensive task of connecting individual solar cells together to create a complete PV module.

We hope to overcome many of these limitations by offering a flexible, lightweight PV product suitable for space and near-space applications. By employing a proprietary monolithic integration fabrication process, we intend to manufacture our PV devices on the module level, rather than the cell level, thereby avoiding the time-consuming and weight-additive cell-to-cell interconnect procedures utilized by other PV device manufacturers. We believe that our choice of substrate materials and proprietary monolithic integration fabrication processes should permit us to achieve cost, volume and weight performance advantages over competitors in our target markets. As a result, we believe that we will be well-positioned to capture opportunities in markets that require or desire highly efficient, lightweight and flexible PV power sources, including the markets for military and commercial spacecraft and satellites and the emerging high-altitude airship ("HAA") initiatives under the supervision of the U.S. Department of Defense.

Although we anticipate making slight variations to address specific market or customer requirements, such as optimized space coatings and protection diode methods, the basic design and architecture of our CIGS PV cells and modules are complete. We are continuing to develop and optimize our monolithic integration fabrication process and plan to complete such developments by October 2006, after which we intend to demonstrate larger area, fully integrated prototype modules for pre-manufacturing testing.

We intend to use the majority of the net proceeds from this offering to establish a 500 kilowatt ("kW") per shift annual capacity production line. Using this production line, we hope to begin fabrication of rolls and sheets of thin-film PV modules by 2008. We intend to distribute the rolls or sheets of PV modules to system integrators and manufacturers of spacecraft, satellites and HAAs, who may then integrate the materials into their unique systems and applications. By running more than one

shift daily, we anticipate having annual capacity to manufacture PV modules capable of generating over 1 megawatt ("MW"), or 1,000 kW, of power.

ITN, a private company incorporated in 1994, is an incubator dedicated to the development of cutting-edge thin-film, PV, battery and fuel cell technologies. Through its work on contracts for private and government entities, ITN developed proprietary processing and manufacturing know-how applicable to PV products generally and to CIGS PV products in particular. ITN formed Ascent to commercialize this investment in CIGS PV technologies for the space and near-space markets. In January 2006, ITN assigned to us its key CIGS PV technologies and trade secrets and granted to us an exclusive, worldwide license to use certain of ITN's proprietary process, control and design technologies in the production of CIGS PV solar modules for our target markets. ITN also agreed to seek permission to assign certain third-party research and development contracts to us, and we expect that a number of ITN employees with experience in CIGS PV technology will join Ascent in the future. ITN also has agreed to design and build our initial production line, which will utilize ITN's proprietary roll-to-roll processing tools, real-time intelligent processing controls and thin-film processing technologies, and to provide us at cost with administrative services such as facilities management, equipment maintenance, human resources, procurement, information technology services and accounting. See "Related Party Transactions" for details about our agreements with ITN.

Our principal business office is located at 8120 Shaffer Parkway, Littleton, Colorado, and our telephone number is (303) 420-1141. Our website address is www.ascentsolartech.com. Information contained in our website or any other website does not constitute part of this prospectus.

This Offering

Securities offered	3,000,000 units. Each unit consists of one share of common stock, one redeemable Class A warrant and two non-redeemable Class B warrants, each warrant to purchase one share of common stock. The common stock and warrants will trade only as a unit for 30 days following the effective date of this offering, after which the common stock and public warrants each will trade separately.
Class A warrants	The Class A warrants included in the units will be exercisable commencing 30 days after the effective date of this offering. The exercise price of each Class A warrant will be $6.60, which is 120% of the public offering price of the units. The Class A warrants expire on the fifth anniversary of the effective date of this offering, but if the warrants are not exercisable at that time because a current registration statement for the underlying shares is not available, then the expiration date will be extended for 30 days following notice from us that the warrants are again exercisable. Nevertheless, there is a possibility that the warrants will never be exercisable when in-the-money or otherwise, and that warrant holders will never receive shares or payment of cash in settlement of the warrants. See page 12 of "Risk Factors" for more detail.
	We will have the right to redeem the Class A warrants issued in this offering at a redemption price of $0.25 per warrant at any time after (i) 180 days from the effective date of this offering and (ii) the date on which the closing price of our common stock, as reported on the Nasdaq Capital Market, has equaled or exceeded $9.35, which is 170% of the public offering price of the units for five consecutive trading days. We are required to provide 30 days' prior written notice to the Class A warrant holders of our intention to redeem the warrants.
Class B warrants	The Class B warrants included in the units will be exercisable commencing 30 days after the effective date of this offering. The exercise price of a Class B warrant will be $11.00, which is 200% of the public offering price of the units. The Class B warrants expire on the fifth anniversary of the effective date of this offering, but if the warrants are not exercisable at that time because a current registration statement for the underlying shares is not available, then the expiration date will be extended for 30 days following notice from us that the warrants are again exercisable. Nevertheless, there is a possibility that the warrants will never be exercisable when in-the-money or otherwise, and that warrant holders will never receive shares or payment of cash in settlement of the warrants. See page 12 of "Risk Factors" for more detail.
	The Class B warrants are not redeemable.

Common stock outstanding after this offering	5,290,909 shares, including shares underlying units issued to certain bridge lenders	
Use of proceeds	Build production line, repayment of bridge loans, sales and marketing, research and development and working capital.	
Nasdaq Capital Market symbols	Units:	ASTIU
	Common stock:	ASTI
	Class A warrants:	ASTIW
	Class B warrants:	ASTIZ
Boston Stock Exchange symbols	Units:	AKC/U
	Common stock:	AKC
	Class A warrants:	AKC&L
	Class B warrants:	AKC&Z
Risk factors	Investing in the units involves a high degree of risk. You should be able to bear a complete loss of your investment. You should carefully consider the information set forth in the "Risk Factors" section.	

We have 2,000,000 shares of common stock issued and outstanding as of June 30, 2006. Unless the context indicates otherwise, all share and per-share common stock information in this prospectus:

- assumes a public offering price of $5.50 per unit;
- assumes the issuance of up to 290,909 units to certain bridge lenders;
- assumes no exercise of the warrants underlying the units issued to certain bridge lenders;
- assumes no exercise of the Class A and Class B warrants;
- assumes no exercise of the underwriters' over-allotment option to purchase up to 450,000 units;
- assumes no exercise of the representative's warrants; and
- excludes 750,000 shares reserved under our 2005 Stock Option Plan.

RISK FACTORS

An investment in our securities involves a high degree of risk and many uncertainties. You should carefully consider the specific factors listed below, together with the cautionary statement that follows this section and the other information included in this prospectus, before purchasing our units. If one or more of the possibilities described as risks below actually occurs, our operating results and financial condition would likely suffer and the trading price of our securities could fall, causing you to lose some or all of your investment in the securities we are offering. The following is a description of what we consider to be our key challenges and all material risks to our business and securities.

Risks Relating to Our Business

We have no history of operations and are therefore subject to various startup company risks.

We were formed in October 2005 and our business to date has consisted of initial setting up of operations to pursue our business plan. In order to pursue our plan, we will have to continue to establish internal infrastructure, hire additional personnel, adopt company plans and procedures, set up a sales organization, oversee the design and construction of our initial production line and otherwise establish the functional capabilities of an operating company. Accomplishing this task may take longer or cost more than expected, and it is likely that problems that we cannot now anticipate will require solution. We cannot assure you that we will be successful in establishing ourselves as an operating company.

We intend to address an unproven market that may not justify our commitment to it.

We intend to develop and offer flexible, lightweight, high efficiency PV products for use in space and near-space applications. Because existing PV technology has suffered from weight, volume and cost constraints that have limited its use in these applications, there is no established market for our flexible thin-film CIGS technology. Our business plan assumes that such a market will develop as a result of the technological improvements that we have made and expect to continue to make. We cannot assure you that such a market will develop or, if it does develop, that it will meet our expectations.

Many of the applications for which we intend to compete will require further technological development, which we cannot guarantee.

Discussions with some potential purchasers of our PV products have been based on the assumption that we will continue to improve the cost, performance/weight and performance/volume characteristics of our planned products. While we believe that the assumptions on which these discussions have been based are reasonable, we cannot assure you that we will be able to achieve these improvements. If we are not able to achieve these improvements, the use of our PV products may be unfeasible or economically unattractive to our potential customers, in which case the sales assumptions underlying our business plan would be incorrect.

If we are not selected to participate in Lockheed Martin's HAA program, we would be forced to either generate revenue or seek funds from other sources to support our operations.

In October 2005, we submitted a written proposal to supply CIGS on high-temperature plastic substrate PV modules to Lockheed Martin Corporation ("Lockheed Martin") for use in an operational prototype HAA program. The operational prototype program, which contemplates the construction and launch of an operational HAA vehicle, would follow the assembly of a prototype "test" HAA ("Test HAA") currently sponsored by the Missile Defense Agency. Lockheed Martin announced last year that it expects to launch the Test HAA in 2009 for a limited duration flight. The development and launch of the operational prototype HAA are expected to follow that of the Test HAA. Our written proposal is divided into several development phases and a production phase. Participation in and throughout each

phase generally is dependent upon continued satisfactory performance. However, our planned products may not meet Lockheed Martin's technical specifications in each phase of the project, and we may not be able to produce an adequate amount of satisfactory product within the time frames contemplated by Lockheed Martin. If Lockheed Martin does not select us as a supplier for the planned operational prototype project or if it eliminates us as a supplier of the project, we would be forced to seek alternate customers or other sources of funding to support our operations after the net proceeds from this offering are consumed. Without revenues from such customers or funding, we might be forced to curtail or even cease operations.

Failure of the HAA market to develop as quickly as we envision would adversely affect our projected sales, growth and revenues.

The HAA market is in its infancy, and should the market opportunity not materialize, opportunities for growth may be limited. In particular, there is not yet long-term government funding for HAA projects. Because HAA projects will be subject to the size and priorities of government budgets, the funding for HAA projects always will be at risk. For example, there is a risk that Lockheed Martin's prototype projects could be curtailed, delayed or cancelled as a result of budgetary constraints, political considerations, emergence of competing technologies or other events. Also, technical or other obstacles encountered by Lockheed Martin during its Test HAA program may impact the timing, funding or viablity of the planned operational prototype HAA in connection with which we have submitted a written proposal. As a small, start-up company, we have little opportunity to exert significant influence on the technical, economic and policy issues that will determine the nature, scope and timing of the Lockheed Martin projects or the HAA market as a whole. If our expectations with respect to the project or the HAA market are not justified, our business would be adversely impacted, we would be forced to rely more heavily on sales in other markets, our growth would be slower than planned and we may be forced to curtail or even cease operations.

We have no contracts for PV products and have recorded no sales of such products; we expect that significant PV product sales will not occur for some time.

We have recorded no sales of PV products and have no contracts for such sales. Because of the nature of the projects in which such products may be used, we expect that the sales cycle will be quite long; therefore, we believe that it will be at least 18 months before we record any PV product sales, although we expect to record revenue from the performance of research and development contracts in the interim. As a result, we expect that it will be some time before we can determine whether our expectations relating to our planned products and their target markets are justified. Also, as a result, we will be required to invest substantial resources in pursuing these markets in advance of any significant revenue stream that may result from such investments. An unanticipated or longer than expected delay revenue ramp-up could put a strain on our capital resources and require us to seek additional capital.

We intend to sell our PV modules to contractors of government-funded projects, which will be subject to political, scheduling and funding risks.

We intend initially to sell our PV modules to system integrators and manufacturers of spacecraft, satellites and HAAs participating in government-funded projects. We would be a subcontractor or supplier on these projects. The government agencies overseeing the projects are subject to economic and political pressures that dictate the manner in which they spend money. As a result, even if a contractor or government agency wants to purchase our PV modules, it may be unable to do so due to budgetary or political constraints. Orders may be canceled or substantially delayed due to budgetary, political or other scheduling delays that frequently occur in connection with government-funded projects. Any such cancellations or delays would likely adversely affect our business.

Because the nature of our operations will be different than that of ITN, the financial statements of the transferred assets of ITN that are included in this prospectus are not representative of our business or prospects.

ITN has been and is a research and development company that performs development contracts for private and government entities. ITN derives no significant revenue from commercial manufacturing and sales. In contrast, Ascent was formed to commercialize CIGS PV technologies for the space and near-space markets. Over time, we expect that our revenues will result primarily from commercial sales of our planned products. Consequently, the historical financial statements of Ascent and for the Transferred Assets that are part of this prospectus are not indicative of our prospects as a manufacturing company and do not represent our historical operations.

A failure by ITN to transfer PV research and development contracts to us could impair our revenues and hamper our research and development efforts.

Development contracts with third parties provide a source of revenue and enable us to develop new technologies more rapidly than we would be able to do otherwise. In a typical year, ITN historically has realized annual revenues between $1 million and $3 million from PV research and development programs. These contracts with third-parties include Small Business Innovation Research ("SBIR") contracts sponsored by government agencies, non-SBIR government contracts and agreements with non-governmental entities. Although we currently have no such programs, ITN has agreed to seek permission to assign certain third-party research and development contracts to us with a full-year value in 2006 of approximately $2.5 million and a value in 2007 of approximately $500,000. However, $1.7 million in 2006 and $500,000 in 2007 are attributable to SBIR contracts for which we may not be eligible due to foreign ownership and size requirements in the regulations governing SBIR contracts. Furthermore, there is a possibility that the parties to ITN's non-SBIR contracts will deny ITN permission to transfer some of the contracts to us. Either scenario would prevent us from collecting revenue under at least some of these contracts and might hamper our ability to develop technologies as quickly as planned or at all.

Because we may be ineligible to apply for or service SBIR contracts, we may be forced to seek alternate sources to fund our research and development efforts.

Many PV companies, including some of our competitors, rely on SBIR contracts to develop new technologies. In fact, the majority of funding associated with ITN's third-party research and development projects results from SBIR contracts. After we become a publicly traded company, we may be ineligible to apply for or service SBIR contracts, in which case we would need to find alternate sources to help fund our research and development efforts.

Contracts involving government agencies are subject to the government's authority to unilaterally cancel or modify the contracts.

Contracts involving government agencies may be terminated or modified at the convenience of the agency. Other risks include potential disclosure of our confidential information to third parties and the exercise of "march-in" rights by the government. March-in rights refer to the right of a United States government agency to require us to grant a license to the technology to a responsible applicant or, if we refuse, the government may grant the license itself. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the technology or because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations or to give the United States industry preference. ITN's and our government-sponsored research contracts are subject to audit and require that ITN or we provide regular written technical updates as well as a final report on the results of our technical research. Because these reports are generally available to the public, third parties may obtain some aspects of our sensitive

confidential information. Moreover, the failure to provide these reports or to provide inaccurate or incomplete reports may provide the government with rights to any intellectual property arising from the related research. Funding from government contracts also may limit when and how we can deploy technology developed under those contracts.

We initially will be substantially dependent on the administrative and engineering resources of our parent company ITN Energy Systems, Inc.

ITN will be responsible for designing and building our production line, which we anticipate will require a majority of the net proceeds from this offering. We also will be dependent on ITN, at least initially, to provide administrative services such as facilities management, equipment maintenance, human resources and accounting. Furthermore, ITN has agreed to seek permission from third parties to transfer certain research and development contracts to us. There is a possibility that a party to one or more of these contracts will reject ITN's request, in which case ITN intends to continue to service the contracts for which permission to transfer is denied and, to the extent possible, assign to us the ownership of any inventions developed under those contracts. Although we are entitled to assume ownership of any inventions developed under these government contracts, the inventions themselves largely are predicated on ITN's ability to carry out those contracts successfully. If our relationship with ITN falters or if ITN fails to carry out its services or contracts in a satisfactory manner, our business may suffer.

Conflicts of interest may arise from our close relationship with ITN.

For the foreseeable future, we will be substantially dependent on the administrative and engineering resources of our parent company ITN. Two members of our Board of Directors, Dr. Mohan Misra and Mr. Ashutosh Misra, also serve as directors or officers of ITN. Although we do not expect a conflict of interest due to the dual roles of these individuals, it nevertheless is conceivable that conflicts may arise with respect to, for example, the pricing of services provided by ITN to us, the sharing of resources and the allocation of each individual's time. Furthermore, because Dr. Misra and Mr. Misra may be asked to secure government contracts not only for us, but also for other companies in which they serve as directors or officers, actual or perceived conflicts of interest may arise.

Failure to build or operate our production line successfully would aversely impact our business and financial condition.

We plan to produce our thin-film PV modules using a custom-built 500 kW per shift annual capacity production line beginning in 2008. Design, building and testing of this production line, which has not yet been built, will require a substantial investment of capital, currently estimated by us to be approximately $8.2 million, which we intend to fund with the net proceeds from this offering. We believe that, if our PV modules are manufactured in large quantities, we will be able to demonstrate manufacturing yields, equipment capability, product performance and product quality that will enable us to produce PV modules for the space and near-space markets at costs lower than those of competitors. However, the successful completion and operation of the production line will require substantial engineering resources and will be subject to significant risks, including risks of cost overruns and delays and the possibility that the production line may never be completed or operational. We may never be able to operate our production processes in high volume, make planned process and equipment improvements, attain projected manufacturing yields or desired annual capacity, obtain timely delivery of equipment to build the production line or hire and train the additional employees and management needed to operate the production line. We also may face insurmountable challenges or incur unforeseen expense as when we try to achieve performance results from our planned products produced on a large-scale roll-to-roll production line compared to the results we have achieved in

small-scale laboratory samples. Failure to meet our manufacturing objectives could materially and adversely affect our business, results of operations and financial condition.

If we fail to clear certain technical hurdles, we may not be able to begin commercial production of our CIGS PV modules in 2008 as planned.

Several technical matters must be resolved in order for us to begin commercial production of CIGS PV modules in 2008 as planned. In particular, the Dow Corning Corporation ("DCC"), which we hope will supply us with high-temperature plastic substrate material, must develop capacity to produce the substrate material in commercial quantities. To date, the DCC substrate material is not commercially available, but DCC has informed us that it is making improvements in its ability to provide the material in larger quantities. We also must complete final testing and integration of our monolithic integration technology by early 2007 and implement the intelligent process controls developed by ITN. We inherited both technologies from ITN, but need to tailor them for use in our planned production line. Finally, additional development may be required as we scale up from small laboratory-level batches to large area continuous roll-to-roll production using much larger manufacturing equipment. Scaling up may present us with unforeseen or unexpected technical challenges that we cannot now identify. Our inability to quickly overcome these technical hurdles could delay the timeline for the commercial production of our planned products and adversely affect our anticipated revenues and plan of operations.

Our planned products may not gain market acceptance, in which case we would be unable to sell our products or achieve profitability.

The development of demand for our proposed products and our ability to sell them may be adversely affected by a number of factors, many of which are beyond our control, including:

- our failure to produce PV modules that compete favorably against competing products on the basis of cost, quality, weight, efficiency and performance;
- our failure to develop or maintain successful relationships with aerospace industry leaders, systems integrators and strategic partners; and
- the failure of our planned products to achieve qualification or certification by customers for use in space or near-space applications.

If our planned products fail to gain market acceptance, we would be unable to sell those products or achieve profitability.

Our future success depends on retaining our existing management and hiring and assimilating new key employees, and our inability to attract or retain key personnel would materially harm our business and results of operations.

Our success depends on the continuing efforts and abilities of Matthew Foster, our President and Chief Executive Officer, and Dr. Joseph Armstrong, our Chief Technology Officer. Our success also will depend, in part, on our ability to attract and retain highly skilled employees, including management, technical and sales personnel. The loss of services of any of our key personnel, the inability to attract, retain or assimilate key personnel in the future, or delays in hiring required personnel could materially harm our business.

Upon becoming a reporting company, we will be required to disclose detailed aspects of our business on a regular and ongoing basis that our competitors might use against us.

The United States Securities and Exchange Commission requires that all public companies disclose certain detailed financial information including the discussion of known trends, demands, events and

uncertainties with specific disclosure about liquidity, capital resources, and critical accounting estimates. In the course of conducting our business, it may on occasion be necessary to publicly disclose certain financial, market, production, technology, product, or other material information that we would otherwise consider proprietary and competitively sensitive. As a result, our competitors may use this information in ways that would adversely affect our earnings, growth and revenues and hamper our ability to adequately protect our intellectual property and carry out our strategic plans.

We may be unable to adequately protect or enforce our proprietary information, which may result in its unauthorized use or reduced sales or otherwise reduce our ability to compete.

Our business and competitive position depend upon our ability to protect our proprietary technology. Despite our efforts to protect this information, unauthorized persons may attempt to obtain and use information that we regard as proprietary. Any patents issued in connection with our efforts to develop new technology for solar power products may not be broad enough to protect all of the potential uses of the technology.

When others are responsible for the control, prosecution, maintenance and enforcement of certain important intellectual property, such as technology licensed to us, the protection of the intellectual property rights may be outside of our control. If the entity that controls the intellectual property rights does not adequately protect those rights, our rights may be impaired, which may impact our ability to develop, market and commercialize our planned products.

Our means of protecting our proprietary rights may not be adequate, and our competitors may:

independently develop substantially equivalent proprietary information, products and techniques;

otherwise gain access to our proprietary information; or

design around our patents or other intellectual property.

Our employees, consultants and advisors execute proprietary information and invention agreements when they begin working for us. However, these agreements may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure. Failure to maintain trade secret and patent protection may adversely affect our business.

Successful infringement claims by third parties could result in substantial damages, lost product sales and the loss of important proprietary rights.

There has been substantial litigation regarding patent and other intellectual property in various high technology industries. In the future, we may be notified of allegations that we may be infringing on intellectual property rights possessed by others. Should litigation be brought against us, such litigation could be extremely expensive and time consuming and could materially adversely affect our business, financial condition and results of operations, regardless of the outcome of the litigation. Such litigation could also result in loss of certain proprietary rights, significant monetary liability and barriers to product manufacturing. Any of these outcomes could materially harm our business and have a material negative impact on the value of your investment.

We are a party to confidentiality agreements that the breach of which may lead to termination of important contracts, injunctive relief or damages.

In the course of our business, we enter into nondisclosure and other types of agreements whereby we, and typically the other party to the agreements, agree not to disclose condidential information. These confidentiality obligations are particularly important in the defense industry where we intend to operate. We have instituted internal procedures to ensure that we do not violate nondisclosure covenants, but we cannot assure that these procedures will be effective in protecting sensitive

information. Moreover, our disclosure obligations as a public company may create a conflict between our duty to disclose material information to the public and our obligation to keep certain proprietary information confidential. Our failure to abide by our confidentiality obligations may lead to termination of our relationship with contracting parties, imposition of injunctive relief against us or damages. In May 2006, we received notification from Lockheed Martin that ITN had breached its data exchange agreement with Lockheed Martin and consequently the agreement would be terminated. Lockheed Martin has since entered into a new agreement with ITN and us to protect confidential information, based on Lockheed Martin's satisfaction with the procedures we have adopted to protect confidential information. While we intend to take all reasonable measures to protect confidential information of parties with whom we contract, there can be no assurance that our procedures will be effective and that we will not breach our confidentiality agreements.

Risks Related to Investment in Our Securities

As a public company, we will be subject to complex legal and accounting requirements that will require us to incur substantial expense and will expose us to risk of non-compliance.

As a public company, we will be subject to numerous legal and accounting requirements that do not apply to private companies. The cost of compliance with many of these requirements is substantial, not only in absolute terms but, more importantly, in relation to the overall scope of the operations of a small company. Our inexperience with these requirements may increase the cost of compliance and may also increase the risk that we will fail to comply. Failure to comply with these requirements can have numerous adverse consequences including, but not limited to, our inability to file required periodic reports on a timely basis, loss of market confidence, delisting of our securities and/or governmental or private actions against us. We cannot assure you that we will be able to comply with all of these requirements or that the cost of such compliance will not prove to be a substantial competitive disadvantage vis-à-vis our privately held and larger public competitors.

There currently is no public trading market for our securities, and an active market may not develop or, if developed, be sustained. If a public trading market does not develop, you may not be able to sell any of your securities.

There currently is no public trading market for our common stock, and we cannot assure you that an active market will develop or be sustained. If an active public trading market for our stock does not develop or is not sustained, it may be difficult or impossible for you to resell your securities at any price. Even if a public market does develop, the market price could decline below the amount you paid for your securities.

While the Class A and Class B warrants are outstanding, it may be more difficult to raise additional equity capital.

While the Class A and Class B warrants are outstanding, the holders of those warrants are given the opportunity to profit from a rise in the market price of our common stock, and we may not redeem the Class A warrants except under certain conditions or the Class B warrants at all. We may find it more difficult to raise additional equity capital while these warrants are outstanding. At any time during which these warrants are likely to be exercised, we may be able to obtain additional equity capital on more favorable terms from other sources. Accordingly, any exercise of the warrants likely would be dilutive to existing stockholders.

If we seek additional capital in the future, your investment could be diluted.

If we are forced to seek additional capital in pursuit of our business objectives, such additional capital, if available, could substantially dilute our then-existing investors.

If we issue shares of preferred stock, your investment could be diluted or subordinated to the rights of the holders of preferred stock.

Our Board of Directors is authorized by our Certificate of Incorporation to establish classes or series of preferred stock and fix the designation, powers, preferences and rights of the shares of each such class or series without any further vote or action by our stockholders. Any shares of preferred stock so issued could have priority over our common stock with respect to dividend or liquidation rights. Although we have no plans to issue any shares of preferred stock or to adopt any new series, preferences or other classification of preferred stock, any such action by our Board of Directors or issuance of preferred stock by us could dilute your investment in our common stock and warrants or subordinate your holdings to the shares of preferred stock.

Future sales or the potential for future sales of our securities may cause the trading price of our common stock and Class A and Class B warrants to decline and could impair our ability to raise capital through subsequent equity offerings.

Sales of a substantial number of shares of our common stock or other securities in the public markets, or the perception that these sales may occur, could cause the market price of our common stock or other securities to decline and could materially impair our ability to raise capital through the sale of additional securities. Immediately after this offering, 5,290,909 shares of our common stock will be issued and outstanding, 5,740,909 shares if the underwriters' over-allotment option is exercised in full. The 3,000,000 units (and constituent shares and warrants) sold in this offering (or 3,450,000 units if the underwriters' over-allotment option is exercised in full) will be freely tradable without restriction or further registration under the federal securities laws unless purchased by our affiliates. All of the shares outstanding immediately prior to this offering will be subject to one or more contractual lock-up agreements. However, we cannot assure you that these agreements will be adequately enforced.

If we do not maintain an effective registration statement or comply with applicable state securities laws, you may not be able to exercise the Class A or Class B warrants.

For you to be able to exercise the Class A or Class B warrants, the shares of our common stock to be issued to you upon exercise of the Class A or Class B warrants must be covered by an effective and current registration statement and qualify or be exempt under the securities laws of the state or other jurisdiction in which you live. We cannot assure you that we will continue to maintain a current registration statement relating to the shares of our common stock underlying the Class A or Class B warrants. If at their expiration date the warrants are not currently exercisable, the expiration date will be extended for 30 days following notice to the holders of the warrants that the warrants are again exercisable. If we cannot honor the exercise of warrants and the securities underlying the warrants are listed on a securities exchange or if there are three independent market makers for the underlying securities, we may, but are not required to, settle the warrants for a price equal to the difference between the closing price of the underlying securities and the exercise price of the warrants. In sum, the Company and you may encounter circumstances in which you will be unable to exercise the Class A or Class B warrants. In those circumstances, the Company may, but is not required to, redeem the warrants by payment in cash. Consequently, there is a possibility that you will never be able to exercise the Class A or Class B warrants, and that you will never receive shares or payment of cash in settlement of the warrants. This potential inability to exercise the Class A or Class B warrants, and the possibility that the Company will never opt to settle warrants in shares or cash, may have an adverse effect on demand for the warrants and the prices that can be obtained from reselling them.

FORWARD-LOOKING STATEMENTS

We make forward-looking statements in this prospectus that are subject to risks and uncertainties. These forward-looking statements include information about possible or assumed future results of our business, financial condition, liquidity, results of operations, plans and objectives. In some cases, you may identify forward-looking statements by words such as "may," "should," "plan," "intend," "potential," "continue," "believe," "expect," "predict," "anticipate" and "estimate," the negative of these words or other comparable words. These statements are only predictions. You should not place undue reliance on these forward-looking statements. The forward-looking statements are qualified by their terms and/or important factors, many of which are outside our control, involve a number of risks, uncertainties and other factors that could cause actual results and events to differ materially from the statements made. The forward-looking statements are based on our beliefs, assumptions and expectations of our future performance, taking into account information currently available to us. These beliefs, assumptions and expectations can change as a result of many possible events or factors, including those events and factors described in "Risk Factors," not all of which are known to us. Neither we nor any other person assumes responsibility for the accuracy or completeness of these statements. We will update this prospectus only to the extent required under applicable securities laws. If a change occurs, our business, financial condition, liquidity and results of operations may vary materially from those expressed in our forward-looking statements.

USE OF PROCEEDS

The net proceeds from the sale of the 3,000,000 units that we are selling in this offering will be approximately $13,985,000, after deducting the underwriting discount of $1,097,250 and estimated offering expenses of approximately $1,417,750.

We intend to use the net proceeds of this offering as follows:

	Amount	Percentage
Design, building and testing of production line and other non-recurring engineering costs	$ 8,200,000	58.6%
Repayment of bridge loans	1,664,000	11.9
Business development and product qualifications	1,000,000	7.2
Research and technology development	1,781,000	12.7
General corporate purposes	1,340,000	9.6
Total:	$ 13,985,000	100.0%

The bridge loans being repaid consist of principal and interest owed to a group of lenders who provided us with short-term working capital in January 2006. The loans, in a principal amount of $1,600,000, accrue interest at an annual rate of 10% and are due and payable on the earlier of January 2007 or the completion of a public offering of equity securities with gross proceeds of at least $5,000,000.

Design, building and testing of production line includes purchase and installation of capital equipment, facility modifications, laboratory equipment, test equipment, quality control equipment, and the labor associated with the engineering, installation, commissioning, and product certification and test.

Business development and product qualifications includes marketing activities, preparation of customer bids and proposals, product prototypes, product qualification and testing, and salaries and wages of associated staff.

Research and technology development includes, internal research and development projects, bid and proposal for research and development contracts, performance of those contracts, and salaries and wages of associated scientists, engineering, and technician staff.

General corporate purposes consist of general and administrative costs, including salaries, accounting and legal fees, rent and other facilities expenses, and other working capital expenses.

The foregoing information is an estimate based on our current business plan. Other than repayment of the bridge loans, we may find it necessary to shift funds reserved for one category of uses to another. For example, if our non-recurring engineering and other costs exceed current estimates (due to sharp increases in costs of materials or equipment), we may be forced to draw from funds budgeted for research and technology development or business development. In such cases, we may find it necessary or advisable to re-allocate portions of the net proceeds we receive from this offering, and we will have broad discretion in doing so. Pending these uses, we intend to invest the net proceeds of the offering in short-term, interest-bearing securities.

Some of the net proceeds will be used to pay ITN for equipment and services as detailed in our Service Center Agreement, Manufacturing Line Agreement, Sublease Agreement and Administrative Services Agreement with ITN. Notably, in connection with our contract with ITN to design and build our 500 kW/shift/year production line, we have budgeted approximately $6,700,000 in payments to ITN through 2007 for equipment, engineering, labor, plant commissioning, production readiness and qualification. We also sublease approximately 9,500 square feet of office and manufacturing space at

cost from ITN and currently pay $11,997 per month (or a total of approximately $300,000 through 2007) in rent, plus pass-through expenses such as taxes, insurance, water and utilities, which we estimate will total approximately $250,000 for the subleased space through the end of 2007. ITN also has agreed to perform administrative services for us at cost, including services such as facilities maintenance, payroll, human resources, accounting and information technology services. Although actual costs may vary from month to month, we estimate that the average monthly cost of such services will be approximately $20,000. Payments to ITN under our Sublease Agreement and Administrative Service Center Agreement will draw from proceeds allocated to "general corporate purposes." A portion of proceeds allocated to "business development and product qualification" and "research and technology development" also may be paid to ITN under our Service Center Agreement, which gives us the right to use, on an as needed and as available basis, certain of ITN's laboratories, equipment and research and development tools. If and when we use the laboratories, equipment and tools, we will pay ITN in accordance with the standard rates that ITN charges its other customers.

DIVIDEND POLICY

We have not declared or paid any dividends and do not intend to pay any dividends in the foreseeable future. We intend to retain any future earnings for use in the operation and expansion of our business. Any future decision to pay dividends on common stock will be at the discretion of our Board of Directors and will depend upon our financial condition, results of operations, capital requirements and other factors our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our:

Actual capitalization as of March 31, 2006; and

Pro forma capitalization as of March 31, 2006 after giving effect to: (i) the sale of 3,000,000 units in this initial public offering at a price of $5.50 per unit, less the underwriting discount and offering expenses; (ii) the issuance of 290,909 units to certain bridge lenders; and (iii) the repayment of bridge loan financing and the recognition to accumulated deficit of remaining bridge loan discount and deferred financing costs.

	March 31, 2006	
	Actual	**Pro Forma as Adjusted**
DEBT		
Bridge loan, net of discount and amortization of $159,140	$ 959,140	$
STOCKHOLDERS' EQUITY		
Preferred stock, $0.0001 par value: 25,000,000 shares actual authorized: no shares issued and outstanding	$	$
Common stock, $0.0001 par value: 75,000,000 shares actual authorized: 2,000,000 shares issued and outstanding March 31, 2006 actual; 5,290,909 shares issued and outstanding pro forma as adjusted	200	529
Additional paid-in capital	1,892,084	15,876,755
Accumulated deficit	(1,940,748)	(2,740,673)
Total capitalization	$ (48,464)	$ 13,136,611

You should read this table in conjunction with the sections of this prospectus captioned "Use of Proceeds" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as the financial statements and related notes included elsewhere in this prospectus.

DILUTION

For purposes of the dilution computation and the following tables, we have attributed the full purchase price of a unit to the share of common stock included in the unit and nothing to the warrants included in the unit. If you invest in our units, your interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our capital stock after this offering. Our net tangible book deficiency as of March 31, 2006 was $48,464 without giving effect to any changes in the net tangible book value after March 31, 2006 other than (i) the sale of 3,000,000 units in this initial public offering at a price of $5.50 per unit, less the underwriting discount and offering expenses; and (ii) the issuance of 290,909 units to certain bridge lenders; and (iii) the repayment of bridge loan financing and the recognition to accumulated deficit of remaining bridge loan discount. Our pro forma net tangible book value as of March 31, 2006 was $13,136,611, or $2.48 per share of outstanding capital stock. Dilution in net tangible book value per share represents the difference between the amount per share paid by the purchasers of our units in this offering and the net tangible book value per share of our capital stock immediately afterwards. This represents an immediate increase of $2.50 per share of capital stock to existing stockholders and an immediate dilution of $3.02 (or 54.9%) per share of common stock to the new investors who purchase units in this offering. The following table illustrates this per share dilution:

Initial price to public			$ 5.50
Pro Forma net tangible book value (deficiency) as of March 31, 2006		$ (0.01)	
Increase in net tangible book value per share attributable to:			
Bridge investor conversion	$ (0.15)		
New investors	2.64		
Increase in net tangible book value per share to existing stockholders		2.49	
Proforma as adjusted net tangible book value per share after this offering			2.48
Dilution in net tangible book value per share to new investors			$ 3.02

If the underwriters' over-allotment option is exercised in full, dilution per share to new investors would be $2.82 (or 51.2%) per share of common stock instead of $3.02 (or 54.9%) per share of common stock.

The following table summarizes the differences between the existing stockholders and the new investors with respect to the number of shares of common stock purchased, the total consideration paid, and the average price per share paid:

	Shares Purchased		Total Consideration		
	Number	Percent	Amount	Percent	Average Price Per Share
Founders stock	972,000	18.4%	$ 38,880	0.2%	$ 0.04
ITN stock for transferred assets	1,028,000	19.4%	31,200	0.2%	0.03
Bridge investors	290,909	5.5%			
Subtotal	2,290,909	43.3%	70,080	0.4%	0.03
New investors	3,000,000	56.7%	16,500,000	99.6%	5.50
Total	5,290,909	100.0%	$ 16,570,080	100.0%	$ 3.13

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 the financial statements and related notes to the financial statements included elsewhere in this prospectus. This discussion contains forward-looking statements that relate to future events or our future financial performance. 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. These risks and other factors include, among others, those listed under "Risk Factors" and those included elsewhere in this prospectus.

Introduction

Ascent was formed to commercialize CIGS PV technology developed by ITN for the space and near-space markets. For over a decade, ITN had been engaged in the research and development of PV technologies and devices. Funded largely by contracts sponsored by government agencies such as the U.S. Air Force Research Laboratory, the National Science Foundation, the National Renewable Energy Laboratory, the Defense Advanced Research Projects Agency, the Missile Defense Agency and NASA, ITN developed roll-to-roll fabrication of a CIGS absorbing layer on a stainless steel metal substrate in the late 1990s. ITN then developed the technology necessary to put a CIGS absorbing layer on high-temperature plastic and produced and tested small area demonstration cells of CIGS on high-temperature plastic. This new technology has been transferred to us and will comprise the technical foundation for our initial product line and business in the near-term.

Unlike ITN, we intend primarily to be a commercial manufacturing company engaged in the production of CIGS PV on high-temperature plastic modules. Our near-term objective is to assemble a 500 kW/shift/year production line by the end of 2007 and begin commercial production of CIGS PV on high-temperature plastic modules by 2008. We expect to remain substantially dependent upon the net proceeds from this offering until commencement of commercial production, after which we hope that revenues from sales will be sufficient to sustain all or a substantial portion of our ongoing operations.

Our most serious near-term challenges and uncertainties relate to product development and manufacturing, on the one hand, and to sales and marketing, on the other.

Product Development and Manufacturing

Meeting the 2008 production deadline with products that satisfy the technical specifications demanded by potential customers, including by Lockheed Martin in the early stages of its HAA prototype project, will require timely resolution of certain technical matters. These matters relate to the supply of our substrate material, further testing of our monolithic integration technology and our intelligent process controls.

We currently obtain the majority of our high-temperature plastic substrate material from Ube Industries, Ltd. (Japan) ("Ube"). We believe the supply of this material from Ube will be available to us in commercial quantities. However, we also have tested our CIGS absorbing layer on a relatively new high-temperature silicone resin (also a form of plastic) substrate material developed by the Dow Corning Corporation ("DCC"). The DCC substrate material can be processed at a higher temperature than the Ube substrate material, a feature that typically results in higher PV efficiencies. We therefore believe that the DCC substrate can be successfully used in our CIGS PV products in space and near-space applications, where efficiencies and weight are a critical measurement. To date, however, the DCC substrate is not commercially available, but DCC has informed us that it is improving on its ability to provide the material in larger quantities. However, if sufficient quantities are not available when we begin production, we will be forced to rely on Ube and other suppliers to provide substrate

materials that may result in lower efficiencies for our planned products. Although we do not expect serious technical difficulties in the use of materials from these alternate suppliers, the impact on efficiencies may affect evaluation and qualification of our planned product by prospective customers and force us to boost efficiencies through implementation of other technologies, some of which (such as tandem-junction devices) already are under development by us.

Meeting the projected deadlines also requires final testing and integration of our monolithic integration technology by early 2007. In general, solar cells generate electrical power in small voltage increments; in order to provide a usable voltage and current, individual cells must be interconnected in series to increase voltage (similar to batteries stacked in a flashlight) and in parallel to increase current. In 2000, ITN demonstrated an automated solar cell interconnect technology that takes a large area of plastic coated with solar cell material, then patterns cells and connects them at the same time without cutting through the substrate material. This process, called monolithic integration, eliminates the need for connecting individual cells and thus simplifies the manufacturing process. In 2005, ITN established a next-generation, laser patterning operation to further improve its monolithic integration technology. Now that we own the technology, we intend to tailor it for use in our planned production line. All laser patterning steps and printing steps (which entail the deposition or application of insulating ink layers) have been separately demonstrated, and the first monolithically integrated module (solar cells interconnected by laser patterning) has been produced. We are optimizing the monolithic integration process with Ube's substrate materials for space and near space applications, while ITN is modifying the process for use with DCC's silicone resin substrate material, with the technical aspects of ITN's development to be assigned to us. We expect to be able to demonstrate monolithic integration processes for both substrate materials by the third quarter of 2006, but if we are unable to do so before the latter half of 2007, we might opt to manufacture discrete cells instead of modules. We would then integrate the cells into modules employing approaches developed for use with CIGS on stainless steel substrates. The additional interconnect steps would add cost to our end products, leaving product weight and efficiencies as the primary advantages we believe that our planned products would have over those of competitors. The financial impact of these additional costs cannot be quantified at this time.

We also need to tailor the automated manufacturing control technology developed by ITN, which we refer to as intelligent process controls, for use in our planned production line. We believe that implementation of intelligent process controls, which continuously monitor the manufacturing process, will help to control and maximize product yields and device efficiencies. In addition, the manufacturing process parameters that have demonstrated promising results in small batches at laboratory level may require additional development as we scale up to large area continuous roll-to-roll production methods in much larger manufacturing equipment.

These challenges must be addressed in order for us to execute out our business plan, which contemplates completion of our 500 kW/shift/year production line by the end of 2007. Although we believe that the project can be completed within the contemplated time frame, events such as unforeseen shortages in supplies or equipment or variations in materials costs could force us to modify our development calendar or reallocate funds, which may affect our anticipated cash flow in 2008. Significant delays could require us to seek additional capital in 2008 to sustain operations. Furthermore, because one of our challenges will be to meet the product performance and manufacturing metrics including yield, rate and efficiencies of prospective customers such as Lockheed Martin within their own project calendars, a delay in our own development calendar or our inability to timely resolve one or more of the technical challenges above might jeopardize our ability to attract and retain customers and generate revenues.

Sales and Marketing

The market's acceptance of our planned products poses a significant challenge to our success. Although system developers in the space and near-space markets are in search of efficient, lightweight, flexible and less-expensive PV products, we will be attempting to introduce a new technology into a field dominated by large, established companies that may be reluctant to quickly adopt our newer technologies.

The Missile Defense Agency has awarded Lockheed Martin a contract to deliver the first prototype HAA. Lockheed Martin has begun development and has announced plans to launch a prototype Test HAA in 2009 for a limited duration flight. The launch of an operational prototype HAA is expected to follow; this planned operational prototype program presents a timely opportunity for us to enter the near-space market. Lockheed Martin's timeline is consistent with our development calendar. In October 2005 and in response to a request for proposal, we, together with ITN and with the support of DCC, submitted a written proposal to supply our CIGS on high-temperature plastic substrate PV modules to Lockheed Martin for use on its planned operational prototype HAA program. Our proposal is divided into several development phases and a production phase. Participation in and throughout each phase generally will be dependent upon continued satisfactory performance. We expect that Lockheed Martin will select suppliers for the planned operational prototype vehicle in the summer of 2006.

We believe that we will be a successful bidder in the program because our planned products are designed to meet the specific power and power density requirements of the prototype project. If we are not initially selected to participate in the prototype program, we intend to work with Lockheed Martin to pursue opportunities in later stages of the program. To participate in these later stages without having participated in earlier stages, we would need to outperform the contractor or contractors that Lockheed Martin initially selected, requiring us to fund the initial development stages with our own resources, which would largely come from our internal research and technology development budget.

We expect the space satellite market to be more difficult to penetrate than the HAA near-space market. Although we believe that our planned products will offer cost and performance advantages over others available on the market, we will first be challenged to find customers willing to use our planned products on their platforms, each of which is likely to have different product requirements. Although we intend to manufacture and package our planned products in such a way that they can easily be integrated in a variety of diverse platforms, the space market we believe is more uncertain than the near-space market in terms of gaining customer confidence and acceptance. In addition to these challenges, we also need to adopt and undertake quality control processes, procedures and tests to qualify and validate our planned products for use in the harsh environmental conditions of space and near-space.

Information Presented

Historical financial information in this prospectus consists of:

An audited historical balance sheet of Ascent as of December 31, 2005 and audited statements of operations, stockholder's equity and cash flows for the period from inception (October 18, 2005) through December 31, 2005 and unaudited statements as of March 31, 2006 and for the three months ended March 31, 2006 and for the period from inception (October 18, 2005) through March 31, 2006.

Unaudited pro forma statements of operations of Ascent for the three months ended March 31, 2006 and for the year ended December 31, 2005, reflecting the transfer of the Transferred Assets (described below under "Overview") from ITN in consideration of 1,028,000 shares of common stock, as if such transactions had occurred on January 1, 2005.

Audited statements of selected assets and liabilities of ITN as of December 31, 2005 and December 31, 2004, and audited statements of revenues and expenses, changes in net assets and cash flows relating to the Transferred Assets, for the years ended December 31, 2005 and December 31, 2004.

The assets, liabilities and operations reflected in these financial statements reflect a portion of the assets and liabilities of ITN and the conduct of a portion of ITN's business, specifically the portion relating to PV technology, research and development. ITN is a relatively mature company engaged in the business of developing technology, in part through obtaining and performing governmental research and development contracts. Ascent proposes to continue to perform under the government contracts that have been transferred to it, but its principal business is expected to consist of commercial sales of PV devices for use in space and near-space applications.

Because of the substantially different nature of the businesses conducted by ITN and proposed to be conducted by us, we believe that the historical financial data presented in this prospectus are not predictive of our future financial condition or results of operations.

Overview

ITN formed Ascent to commercialize CIGS PV technology for the space and near-space markets. In January 2006, in exchange for 1,028,000 shares of common stock of Ascent, ITN: (i) assigned its CIGS PV technologies and trade secrets ("Transferred Assets") to Ascent; (ii) licensed certain proprietary process, control and design technologies to Ascent; (iii) agreed to seek permission to assign certain contract rights relating to its CIGS PV business to Ascent; (iv) transferred certain key personnel to Ascent; (v) executed a contract to design and build Ascent's initial production line, which will utilize ITN's proprietary roll-to-roll processing tools, real-time intelligent processing controls and thin-film processing technologies; and (vi) executed a contract to provide administrative services such as facilities management, equipment maintenance, human resources and payroll at cost.

The statements of selected assets and liabilities, of revenues and expenses, of changes in net assets and of cash flows of the Transferred Assets have been presented in the accompanying financial statements. These selected assets and liabilities directly correspond to contracts related to ITN's PV business. Because of uncertainty surrounding the novation of SBIR to Ascent, the SBIR contracts were not included in the Transferred Assets financial statements. The following table reflects total revenues from ITN's PV contracts, including revenues from SBIR contracts, for the financial periods reported:

	For the Years Ended December 31,	
	2005	2004
Contract revenue from PV non-SBIR contracts	$ 1,050,502	$ 1,425,886
Contract revenue from PV SBIR contracts	$ 2,056,347	$ 1,893,769
Total ITN PV contracts	$ 3,106,849	$ 3,319,655

During 2004, ITN partnered with government agencies such as the National Renewable Energy Laboratory ("NREL"), a division of the Department of Energy. The NREL contracts are cost-reimbursable contracts with no profit and also include a cost-sharing arrangement where ITN contributes its own internal funds for technology development. In 2004 and 2005, ITN received additional significant awards of SBIR contracts from the Air Force Research Laboratory along with a non-SBIR award from NASA. These research and development ("R&D") contracts do not have a cost-sharing arrangement and have profit margins of 6 to 7%. We intend to pursue government contracts in 2006 and beyond for continued R&D related to our PV devices. However, our business plan does not rely on the acquisition of any such new government contracts. We do not anticipate meaningful revenue until we are able to begin sales of PV products produced by our proposed

manufacturing facility. We plan to offer standard pricing of our planned products to both commercial and government customers and will use portions of our earnings for continued R&D purposes.

Our historical statement of operations for the period ended December 31, 2005 reflects a loss of approximately $1,207,000, of which $959,000 relates to a non-cash recording of stock based compensation.

As a result of the investment required to develop our proposed manufacturing facility, we expect our indirect costs to increase substantially in 2006 and 2007 as we hire new personnel and invest in new equipment. We therefore expect that our net losses will increase substantially until 2008, when we anticipate they will be offset to a limited degree by revenue from the sale of PV devices.

We expect to be dependent on additional capital infusions, such as the net proceeds of this offering, to execute our business plan, and we may require additional capital if we wish to further expand capacity.

Critical Accounting Policies and Estimates

The preparation of our consolidated financial statements will require us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosures. A summary of accounting policies that have been applied to the historical financial statements presented in the prospectus can be found in the footnotes thereto. We consider certain of these accounting policies to be critical as they are both important to the portrayal of our financial condition and results of operations and require judgments on the part of management about matters that are uncertain. We have identified the following accounting policies that are important to the presentation of the financial information in this Prospectus.

Revenue Recognition

Revenue from cost-type R&D contracts is recognized as costs are incurred on the basis of direct costs plus allowable indirect costs and an allocable portion of the fixed fee. Revenue from fixed price-type R&D contracts is recognized under the percentage-of-completion method of accounting, with costs and estimated profits included in contract revenue as work is performed. If actual and estimated costs to complete a contract indicate a loss, provision is made currently for the loss anticipated on the contract. Revenue from time and materials contracts is recognized as costs are incurred at amounts represented by the agreed-upon billing amounts.

Certain of the US government R&D contracts require that the contracting party contribute to the R&D effort under a cost-sharing arrangement. The contracting party's share of costs is expensed as incurred.

Stock based compensation

In December 2004, the FASB issued SFAS No. 123(R), "Share-Based Payment," which is a revision of SFAS No. 123, Accounting for Stock-Based Compensation. SFAS No. 123(R) is effective for public companies for interim or annual periods beginning after June 15, 2005, supersedes APB Opinion No. 25, Accounting for Stock Issued to Employees, and amends SFAS No. 95, Statement of Cash Flows.

SFAS No. 123(R) requires all share-based payments, including grants of stock options and issuances of stock to employees, to be recognized in the income statement based on their fair values. Proforma disclosure is no longer an alternative. The Company adopted the new standard October 18, 2005.

In connection with the valuation of our stock at various points in time, including at the times of stock issuances and option grants, we followed guidance provided by the American Institute of Certified Public Accountants ("AICPA") Task Force's Audit and Accounting Practice Aid *Valuation of Privately-Held-Company Equity Securities Issued as Compensation* (the "AICPA Practice Aid"). As a development stage company without significant resources and no current revenue-generating operations, our management concluded that the expenditure of limited available funds to engage an outside valuation specialist to perform contemporaneous and comprehensive valuations at key dates between inception and the date of this offering was not an appropriate use of financial resources. We instead derived relevant valuations internally using the AICPA Practice Aid and evaluated those figures in light of Generally Accepted Accounting Principles ("GAAP") to establish book values for our accounting and book purposes.

Chapter 6 of the AICPA Practice Aid recommends three general approaches to valuation: (i) the market approach, which compares a company's financial data and ratios to other companies with similar characteristics in order to draw correlations relevant to valuation (the "Guideline Public Company Method") or which examines transactions in a company's equity securities with unrelated investors (the "Guideline Transactions Method"); (ii) the income approach, which develops an estimate of value for a company based on its historical or expected future financial performance ("Income Method"); and (iii) the asset (or replacement cost) approach, which uses an estimate of value for a company's net assets (the "Asset Method").

According to the AICPA Practice Aid, "[o]ne of the principal elements contributing to a change in an enterprise's fair value over time is the stage of development of the enterprise and, typically, value is created as an enterprise advances through the various stages of development." Bearing this in mind, we considered the AICPA Practice Aid's guidance on stages of enterprise development. The AICPA Practice Aid describes a "Stage 1" enterprise as one that has not yet generated product revenue and has a limited expense history. It also typically has an incomplete management team with a plan for initial product development and perhaps has secured seed capital or first round financing. A "Stage 2" enterprise is described as one that has no product revenue, but has substantive expense history, as product development is underway and business challenges are thought to be understood. Typically, a second or third round of financing occurs during Stage 2. We believe that, at least until the completion of this offering, these stage descriptors accurately describe our business, and we consider the Guideline Public Company Method and the Income Method to be inappropriate valuation methods because (under the Guideline Public Company Method) little relative comparative data for non-public companies in our industry are available to us and because (under the Income Method) projections of our cash flow or income are limited and subject to many assumptions that may be affected by factors beyond our control. We therefore were compelled to use either the Guideline Transactions Method or the Asset Method in our analysis.

Bearing in mind the AICPA Practice Aid's description of stages of enterprise development, we identified the following key dates and events, among others, as relevant to the valuation analysis:

Developmental Stage 1

October 18, 2005 (date of inception)

October 26, 2005 (our Board of Directors appointed certain key members of management)

November 3, 2005 (we issued stock to our founders)

November 11, 2005 (we received a $200,000 loan to fund initial operations)

November 18, 2005 (we issued stock options to certain employees)

January 17, 2006 (we entered into several agreements with ITN, whereby ITN assigned and licensed several key technologies to us and agreed to seek permission to assign certain third-party research and available contracts)

Developmental Stage 2

January 18, 2006 (we closed our $1.6 million bridge loan with outside lenders)

January 23, 2006 (we first filed a registration statement for our initial public offering)

January 27, 2006 through March 1, 2006 (we granted additional stock options to employees and consultants)

The date of effectiveness of the registration statement associated with this offering.

To value our common stock for book purposes, we examined the circumstances existing on each relevant date, and relied in particular on the $1.6 million (face value) bridge loan obtained from 23 outside investors on January 18, 2006. The principal terms of this loan included: (i) a maturity date of the earlier of a qualified public offering or January 2007; (ii) an annual interest rate of 10%; (iii) the issuance of bridge rights to receive equity of the company regardless of whether a qualified public offering occurs; and (iv) a conversion right to permit issuance of equity if a qualified public offering does not occur and the loan cannot be repaid in cash. We believe that this loan transaction represents a contemporaneous and objective assessment of the value of our common stock by third parties because, among other things:

The investor group consisted of accredited and sophisticated investors capable of assessing the risks involved with our business and the transaction;

The lenders anticipated that repayment of the loan would come only from the proceeds of a qualified public offering and that, in the absence of such an offering, they would be forced to receive our common stock in lieu of cash;

In the absence of a qualified public offering, the lenders agreed to accept up to 16,666 shares of our common stock for each $25,000 of principal and interest, resulting in an effective per share value of $1.50; and

In the absence of a qualified pubic offering, the accredited lenders would be forced to accept the equity interest and wait for a liquidity event to recover their investment, and it is reasonable to assume that the lenders priced the equity investment (i.e., the conversion ratios) at a value that they considered commensurate with the risks involved.

Using the Guideline Transactions Method referenced in the AICPA Practice Aid, and based upon the notion that fair value can be identified as "[t]he price at which the property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of the relevant facts" (*IRS Revenue Ruling 59-60*), we concluded that the $1.6 million bridge loan by third parties establishes a fair value of our enterprise and of our common stock as of January 18, 2006 and accordingly arrived at an implied minority non-marketable per share value of $1.50.

After arriving at this arms-length valuation, we examined the events that occurred in the months prior to the bridge loan, including: (i) the execution of a letter of intent with our underwriters, our incorporation and formation and the election of management, all of which occurred prior to the sale of founders' stock on November 3, 2005; (ii) a loan of $200,000 from Paulson Investment Company to help fund initial operations and the execution of employment agreements with certain of our executive officers, all of which occurred prior to the issuance of stock options on November 18, 2005; and (iii) the execution of agreements with, and assignment of assets from, ITN, which occurred prior to the closing of the $1.6 million bridge loan transaction. Attributing relative weights or perceived importance

to each event and distributing these weights across a spread of $0.00 (inception) to $1.50 (January 18, 2006), we determined that the fair value of our common stock for book purposes on November 3, 2005 should be $1.00 and on November 18, 2005 should be $1.20. In particular, we attached significant weight to the completion of critical milestones that occurred before November 3, 2005, such as the execution of a letter of intent with Paulson Investment Company, Inc. and the selection and appointment of our key management. Because these accomplishments represented prerequisites to events that followed, we believe that approximately two-thirds of our common stock's fair value on January 18, 2006, or $1.00 per share, was created by November 3, 2005. Between November 3, 2005 and November 18, 2005, we entered into a short-term loan with Paulson Investment Company, and Paulson Investment Company completed its preliminary due diligence. Between November 18, 2005 and January 18, 2006, we executed our agreements with ITN and also closed our bridge loan transaction with outside investors. Attaching relatively more importance to the later events than to the earlier, and based upon fair values for book purposes on November 3, 2005 of $1.00 per share and on January 18, 2006 of $1.50 per share, we derived a fair value for book purposes on November 18, 2005 of $1.20 per share.

We also concluded that the fair value of our common stock between January 27 and March 31, 2006 should be recorded for book purposes at $2.95. This conclusion was reached by examining the events that occurred after the bridge loan transaction, which included the initial filing of our registration statement on January 26, 2006, a critical milestone that required the concurrence of our auditors and underwriters and represented an essential step in the offering process. The same conclusion was reached by extrapolating backwards from $5.50, the midpoint of the anticipated offering range that we negotiated with our underwriters. Each unit comprises one share of common stock and three warrants. We examined the trading patterns of the shares and warrants of another early-stage company in the PV industry in the initial weeks after its initial public offering (in which each offered unit, like ours, comprised one share and three warrants, and each warrant had comparable terms as the warrants being offered by us) and found that, during that period, the trading price of that company's common stock represented between 50% to 57% of the aggregate trading price of its common stock and three warrants. Based upon this empirical data, we concluded that the value of our common stock for book purposes from January 27 through at least March 31, 2006 should be approximately 53.5% of our unit offering price, or $2.95 per share. Using the anticipated public offering price of our units as a starting point, we also attempted to validate the fair values on November 3 and November 18, 2005 that we derived for book purposes, and we concluded that the $1.00 and $1.20 fair values fell within reasonable ranges after considering adjustments for milestones and key events, and after applying discounts for lack of marketability. In sum, we have for book purposes used the following fair values on certain dates for our common stock, and our financial statements reflect and in the future will reflect these values:

October 31, 2005	$0.00 per share
November 3, 2005	$1.00 per share
November 18, 2005	$1.20 per share
January 18, 2006	$1.50 per share
January 27 through March 31, 2006	$2.95 per share

Results of Operations

Transferred Assets of ITN Energy Systems Inc.:

Comparison of years ended December 31, 2005 and 2004

Revenues. Total revenues related to the Transferred Assets were $1,050,502 for the year ended December 31, 2005, a decrease of $375,384 or 26% from the corresponding period in 2004. All revenues for both periods were from government research and development contracts ("R&D contracts"). R&D contracts in 2004 were cost-reimbursable contracts with no profit. A few of the R&D

contracts also had cost-sharing arrangements where ITN contributed their own internal funds for technology development. The decrease is due to several contracts completed during late 2004 and early 2005. A new contract awarded in April 2005 partially offset the decrease from the completed contracts in 2004.

Direct contract costs. Direct contract costs were $529,218 for the year ended December 31, 2005, a decrease of $154,212 or 23% from the corresponding period in 2004. This 23% decrease is in direct relationship to the 26% decrease in revenues and overall contract volume.

Gross margin on revenues. Gross margin on revenue was $521,284 for the year ended December 31, 2005, or 50% of contract revenues. Gross margin for the year ended December 31, 2004 was $742,456, or 52% of contract revenues. The slight increase in gross margin for the year ended December 31, 2005 was due to proportionately lower direct labor costs in the period compared with the prior year.

Indirect costs. Indirect costs were $513,678 for the year ended December 31, 2005, a decrease of $309,788 or 38% from the previous period. Indirect costs include: general and administrative expenses; overhead expenses; and subcontract, material and handling expenses. Indirect costs are allocated to all contracts based on an approved government allocation method. The decrease of indirect costs from 2004 to 2005 was due to the decrease in contract volume and the significant decrease in direct labor. A majority of indirect costs are allocated based on direct labor incurred on the contract.

Net income (loss). Net income of $7,706 for the year ended December 31, 2005 represented an increase of $88,616 or 110% from the year ended December 31, 2004. This increase in net income was due to a decrease in cost-share commitments on contracts from 2004 to 2005 of approximately $120,000, profit from the new contract awarded in April 2005, and lower indirect expenses.

Ascent Solar Technologies, Inc.

The Company's activities to date have substantially consisted of raising capital, research and manufacturing development. The Company's total general & administrative expenses can be summarized as follows:

	For the Three Months ended March 31, 2006 (Unaudited)	For the Period from inception (October 18, 2005) through December 31, 2005
Business development & product qualification	$ 160,502	$ 54,291
Manufacturing development	48,331	
General corporate purposes	254,529	1,150,203
General & administrative expenses	$ 463,362	$ 1,204,494

Business development and product qualification costs for the three months ended March 31, 2006 of $160,502 and for the period from inception (October 18, 2005) through December 31, 2005 of $54,291 are associated with efforts related to identifying and bidding on government and commercial contracts. If won these contracts will be utilized to help further define our product for space and near space applications. Manufacturing development costs of $48,331 for the three months ended currently consist of coordinating with equipment manufacturers and equipment component suppliers in order to provide the manufacturing equipment required for our plant. Additional manufacturing development costs consist of coordinating design requirements for the manufacturing equipment. General corporate purpose expenses relate to facility costs and administrative support costs along with other normal operating expenses. Included in general corporate purpose costs is a non-cash transaction for stock based compensation related to the issuance of the Company's stock and stock options at fair value. Stock based compensation for the three months ended March 31, 2006 and for the period from

inception (October 18, 2005) through December 31, 2005 was $63,080 and $959,124, respectively. Also included in general corporate purpose costs for the three months ended March 31, 2006 are additional costs of approximately $23,000 over normal corporate expenses for travel associated with the road show in connection with this offering. General corporate expenses for the period from inception (October 18, 2005) through December 31, 2005 include approximately $106,000 related to legal fees incurred in the formation of the Company.

Research and technology development costs for the three months ended March 31, 2006 of $40,223 consists of activities related to process and product development of our thin film PV technology. There were no research and technology costs incurred for the period from inception (October 18, 2005) through December 31, 2005.

	For the Three Months ended March 31, 2006 (Unaudited)	For the Period from inception (October 18, 2005) through December 31, 2005
Research and technology development	$ 40,223	$

Other income (expense) for the three months ended March 31, 2006 and for the period from Inception (October 18, 2005) through December 31, 2005 of $230,738 and $2,740, respectively, consists of interest expense on financing activities. The Company's other/income (expense) is comprised of the following:

	For the Three Months ended March 31, 2006 (Unaudited)	For the Period from inception (October 18, 2005) through December 31, 2005
Interest Expense-Note Payable	$ 1,398	$ 2,740
Interest Expense-Bridge Loan	30,701	
Interest Expense-Amortization of Bridge Loan Discount	159,140	
Interest Expense-Amortization of Deferred Financing Costs	39,499	
Other Income/Expense (Interest-Expense)	$ 230,738	$ 2,740

Interest Expense Note Payable for the three months ended March 31, 2006 and for the period from Inception (October 18, 2005) through December 31, 2005 of $1,398 and $2,740, respectively, consists of interest expense on the $200,000 short term note from Paulson Investment Company, Inc. This note was paid in full on February 1, 2006. Interest expense-Bridge Loan is the 10% interest computed for the first quarter on the $1,600,000 bridge loan financing completed on January 18, 2006. Interest expense-Amortization of Bridge Loan Discount is the bridge loan discount recorded of $800,000 for the value of the bridge rights amortized over the life of the bridge loan financing (1 year). Interest Expense-Amortization of Deferred Financing Costs represents the amortization of direct costs associated with obtaining the bridge loan financing, including $160,000 for commission to Paulson, over the life of the bridge loan financing (1 year).

For the three months ended March 31, 2006 the company recorded revenues of $3,380 and direct costs of $2,571 associated with support services performed by the Company on behalf of ITN. The Company bills ITN for any support activities at cost.

	For the Three Months ended March 31, 2006 (Unaudited)	For the Period from inception (October 18, 2005) through December 31, 2005
Related Party Contract Revenue	$ 3,380	
Direct Contract Costs	$ 2,571	

Liquidity and Capital Resources

We currently do not have manufacturing capabilities or other means to generate revenues or cash. The net proceeds from the offering will be utilized to build our operational infrastructure and to develop the manufacturing capacity necessary to produce PV products for sale into our target markets. We do not anticipate that we will develop such capability until the second quarter of 2008, but we believe that the net proceeds from this offering, less the $1.6 million plus accrued interest to be repaid to bridge lenders, will be sufficient to sustain our operations until then. We anticipate that our cash requirements for operating activities will be approximately $500,000 per quarter in 2006 and 2007, and we expect to expend an average of $950,000 per quarter to acquire capital equipment in 2006 and 2007 (a calendar of our projected capital outlays appears below). However, even after we begin production as scheduled in 2008, it is unlikely that our initial sales revenue will be sufficient to immediately support all of our operations and cash requirements, which we estimate will be approximately $750,000 per quarter in 2008. Consequently, unless we receive additional infusions of cash from, for example, the exercise of the Class A or Class B warrants being issued in this offering, we may have to raise additional capital from outside sources.

Our principal business will be to manufacture and sell CIGS PV modules into the space and near-space markets. To realize this objective, we intend to use the majority of the net proceeds from this offering to construct a 500 kW per shift annual capacity production line to fabricate rolls and sheets of thin-film PV modules. We have budgeted approximately $8.2 million for the design, building, and testing of our production line, including related non-recurring engineering costs, according to the following development calendar. The capital outlays shown in this calendar represent payments to be made pursuant to our Manufacturing Line Agreement with ITN; however, only the first $200,000 has been agreed to by the parties, the balance of $6.5 million is only an estimate we have made for purposes of planning.

Development Stage	Completion Milestone	Estimated Capital Outlay
Completion of engineering	3rd QTR 2006	$ 200,000
Facility and equipment build		
Progress payment 1	4th QTR 2006	$ 2,000,000
Progress payment 2	1st QTR 2007	$ 2,000,000
Progress payment 3	2nd QTR 2007	$ 2,000,000
Plant commissioning	3rd QTR 2007	$ 300,000
Production readiness, qualification	1st QTR 2008	$ 200,000
Commencement of production	2nd QTR 2008	
Total		$ 6,700,000

The remaining $1.5 million of the $8.2 million budgeted includes labor and management reserves. Until plant commissioning, labor initially will be limited to a project engineer and head of manufacturing, yielding an expected operating cost of approximately $80,000 per quarter. After the plant is commissioned in 2007, we plan to hire additional engineers, process technicians and operators

in anticipation of commencement of production during the second quarter of 2008, which we expect will yield an operating cost of approximately $325,000 per quarter to support single shift production operations.

Although over-hiring or hiring personnel too soon can put untimely demands on cash, we believe that such a risk is within management's control and can be managed virtually on a daily basis. In contrast, the capital outlay of $6.7 million for plant and equipment represents our single largest cash risk, both because of the amounts involved and the difficulty in "turning back" once the project is started. To manage this risk, we have divided the project into three phases engineering, build and commissioning, and qualification and have contracted with ITN to carry out the project. The engineering and qualification phases involve principally labor, so, in an effort to minimize our expenses, our Manufacturing Line Agreement with ITN contemplates a cost-only arrangement for engineering services. During the build and commissioning phase of the project, which we believe will consume approximately $6.3 million, we may be exposed to risk of delays and cost-overruns, but we intend to manage these risks by adopting progress payments and a fixed-price contract with ITN.

We have budgeted $1.3 million for general corporate purposes, which consists of general and administrative costs, accounting and legal fees, rent and other facility expenses, and other working capital expenses. We have entered into contracts with ITN to have ITN provide us with many administrative services such as facilities management, information technology, payroll and human resources, on a cost-only basis. We believe that this cost-effective arrangement enables us to avoid the overhead and risks associated with the hiring of our own personnel to perform these functions. We estimate that the operating costs for our general corporate purposes will be approximately $168,000 per quarter through 2007.

We have budgeted $1.0 million of the net proceeds for business development and product qualifications, which include marketing activities, preparation of customer bids and proposals, product prototypes, product qualifications and associated labor expenses. We expect that these initiatives will require approximately $125,000 per quarter, which will include portions of our senior management's labor insofar our Chief Executive Officer and Chief Technology Officer will be active in our business development efforts. However, our spending in this category of activities may be impacted by the emergence of unforeseen customer or project opportunities and changes in existing customer programs.

We consider our $1.8 million research and technology development account to be discretionary as our immediate cash needs in this area are relatively low while we concentrate our efforts on building our production line. Nevertheless, our longer-term objective is to assemble a research and technology development team to research new technologies and develop enhancements to our planned products.

As discussed elsewhere in this prospectus, ITN is a party to several R&D contracts and has agreed to seek permission to transfer some of these contracts to us. The full-year revenues associated with the R&D contracts are approximately $2.5 million in 2006 and approximately $500,000 in 2007; the year-on-year decrease is due to the fact that a majority of the existing R&D contracts end in the last quarter of 2006 and the first quarter of 2007. As of December 31, 2005, none of the remaining R&D contracts had cost-share arrangements whereby ITN was required to contribute its own funds to develop the technology. Of the $3 million remaining revenues from R&D contracts at December 31, 2005, approximately $800,000 are from non-SBIR contracts and $2.2 million are from SBIR contracts. We anticipate that if and as each R&D contract is transferred, some of the scientists, engineers and technicians staffing the contract will be transferred to our payroll as well. However, each transferred R&D contract should bring funds sufficient to support the costs associated with our performance of that contract, including labor, facilities and other expenses. Because our projections for research and technology development spending do not assume that any R&D contracts will be transferred to us, transferred R&D contracts should allow us to build a research and technology development team without drawing large amounts from the $1.8 million budgeted. We also intend to pursue development contracts in our own right, which also should permit us to hire or retain research and technology development staff at little or no net expense. Currently, we expect to spend approximately $125,000 per quarter on operating costs for research and technology development in 2006, but our needs in 2007 and beyond largely will depend on certain contingencies (such as our proposal to Lockheed Martin), the outcomes of which we cannot predict at this time.

PROPOSED BUSINESS

Overview

On space satellites and near-space aircraft, photovoltaic ("PV") devices convert sunlight into the electricity needed to reliably power instruments, communications systems and the like. Currently, most PV devices used for space and near-space applications are rigid, bulky and relatively heavy, posing significant challenges to scientists and designers wishing to minimize volume and weight in order to maximize payload and reduce deployment cost. In addition to these shortcomings, PV devices traditionally used for such applications are expensive to manufacture and typically require the time-consuming and labor-intensive task of connecting individual solar cells together to create a complete PV module.

We are working to overcome these limitations by creating a flexible, lightweight PV product suitable for space and near-space applications. We intend to be the first company to manufacture PV modules in commercial quantities that use a highly efficient thin-film Copper-Indium-Gallium-diSelenide ("CIGS") absorbing layer on a flexible high-temperature plastic substrate. By employing a proprietary monolithic integration fabrication process, we intend to manufacture our PV devices on the module level, rather than the cell level, allowing us to avoid time-consuming and weight-additive cell-to-cell interconnect procedures utilized by other PV device manufacturers. We believe that our choice of substrate materials and proprietary monolithic integration fabrication processes should permit us to achieve cost, volume and weight performance advantages over competitors in our target markets. As a result, we believe that we will be well-positioned to capture opportunities in markets requiring highly efficient, lightweight and flexible PV power sources, including the markets for military and commercial spacecraft and satellites and the emerging high-altitude airship ("HAA") initiatives under the supervision of the U.S. Department of Defense ("DoD").

Photovoltaic Technology

Thin-film devices are manufactured by depositing a thin film of material onto a substrate or onto previously deposited layers. We intend to use thin-film techniques to manufacture PV modules for space and near-space applications.

Solar cells are the most elementary component of a PV device; they absorb light and convert it into electrical power. Solar cells consist of a light-absorbing layer mounted on a substrate, together with top and back electrical contact points, much like a household battery. There are three materials currently considered by the PV industry as candidates for thin-film production: amorphous silicon ("a-Si"), cadmium telluride and CIGS. We intend to use a CIGS absorbing layer in our products because of that technology's excellent performance attributes. An absorbing layer can be deposited on a substrate that is either rigid or flexible. A majority of companies currently use rigid glass substrates. The few companies that incorporate flexible substrates in their devices typically opt for stainless steel (or other metal) foil. We believe that the deposition of a CIGS absorbing layer on a high-temperature plastic substrate best meets the rigorous specifications and unusual demands of the space and near-space markets.

Once fabricated, individual solar cells must be interconnected to form PV modules. Historically, this interconnection has been done manually using welding, soldering or bonding techniques that add both complexity and cost to the manufacturing process. We intend to avoid manual interconnects by utilizing a proprietary form of "monolithic integration," whereby we intersperse laser patterning and printing steps during the thin-film deposition steps. We intend to create the interconnects at the same time we create the cells, and we fabricate our PV devices at the module level, while most of our competitors manufacture at the cell level. We believe that the use of monolithic integration in our fabrication process will offer us cost and device weight savings over our competitors. The PV devices we intend to sell commercially will be complete modules with protective thermal and environmental

coatings, mechanical and electrical interconnects, diode protection and the like. These modules can then easily be hooked together to create PV arrays in a variety of desired patterns, shapes or sizes.

In sum, as the beneficiary of ITN's substantial investment in research and development of CIGS PV technology, we intend to manufacture monolithically integrated CIGS on high-temperature plastic substrate modules for use in the space and near-space markets.

The Space and Near-Space Markets

Our thin-film PV modules are designed for space and near-space applications. We envision installation of our planned products on satellites and other spacecraft, as well as near-space instruments such as the HAAs being developed by Lockheed Martin and others. The target customers for our PV modules therefore include traditional aerospace companies, companies in the defense and communications industries and domestic and foreign government entities. We believe that the HAA industry presents attractive opportunities for us, insofar as companies such as Lockheed Martin are searching for standard suppliers of PV subsystems for use with their HAA designs. Also, although the market for satellites is relatively well-established, we believe that significant opportunities exist there as companies search for lighter, cheaper and more efficient PV devices.

Space Applications: Satellites and Spacecraft

The U.S. satellite industry is dominated by four major manufacturers: Lockheed Martin, The Boeing Company, Orbital Sciences Corporation and Loral Space & Communications Ltd. In a recent publicly available study titled "Satellite Manufacturing Report," Futron Corporation, a space and telecommunications consulting firm, reports that these four manufacturers together accounted for 16 of the 19 U.S. satellites launched in 2004. These and major foreign satellite manufacturers represent our target customers in the space market.

The vast majority of satellites currently use rigid and heavy PV array panels with market prices of approximately $1,000 per watt generated. The industry, however, is pursuing new, lightweight, flexible and less expensive PV products that can lower power costs, reduce the overall weight of satellites, increase payload capacity and permit the use of smaller, less expensive launch systems for placing satellites in orbit. As noted in a recent Small Business Innovative Research program announcement (AF06-274, titled "Next Generation Solar Cells Based on Nanostructures") published on behalf of the U.S. Air Force:

> "Higher efficiency solar cells are needed to reduce solar array mass, stowed volume, and cost for Air Force (AF) space missions. Conventional crystalline multijunction solar cells are currently limited in efficiency by the complexity of adding more junctions to increase absorption of the solar spectrum, and the necessity to match lattice parameter and current for each junction The ideal new solar cell would be flexible and lightweight. However, efforts should be focused on significantly increased metrics (W/m2 and W/Kg) over state of the art (SOA) multijunction solar cells at lower costs. Current array level costs are ~$1000/watt. A threshold cost for early systems based on the new technology would be comparable or less than current systems, with costs dropping to <$250/watt with continued development. Current state-of-the-art crystalline multijunction solar cells are ~30% efficient, >350 W/m2, and ~70 W/Kg at the array level. Thresholds for the new technology would be >40% efficiency, >450 W/m2, and >250 W/kg."

We believe that flexible thin-film PV devices generally, and our CIGS on high-temperature plastic substrate modules in particular, are primed to take advantage of these evolving market requirements.

Near-Space Applications: High-Altitude Airships

The DoD and the militaries of U.S. allies have long been interested in solar-powered HAAs as low-cost platforms to augment sensor-carrying unmanned aerial vehicles, aircraft and space satellites. As currently conceived, HAAs resemble giant blimps roughly 500 feet long and 150 feet in diameter. Cheaper to launch than space satellites, which orbit the planet outside the earth's atmosphere, HAAs, which are filled with lighter than air gases, operate within the atmosphere but at an altitude above the reach of many aircraft and conventional weapons systems. Operating at these near-space altitudes affords opportunities attractive to the communications and surveillance industries. For example, military commanders could park one or more HAAs equipped with advanced surveillance instruments at 65,000 to 100,000 feet in a stationary position over a combat zone to facilitate 24/7 surveillance. At an altitude of 65,000 to 100,000 feet (less than 20 miles), images generated and data gathered by a stationary HAA likely would offer greater resolution and detail than that from a geostationary surveillance satellite in space, which typically orbits the earth at a distance of 22,000 miles. Even a non-geostationary satellite, which has the disadvantage of making only infrequent passes over a given area of the earth's surface, operates hundreds of miles up, far higher than the anticipated realm of HAAs. Furthermore, HAAs should be more easily moved and deployed from one geographic region to another compared with space satellites. This is a valuable feature since some experts propose the deployment of HAAs equipped with signal repeaters or transmission equipment over areas victimized by a terrorist attack or by a natural disaster such as a tornado, flood or hurricane and in which conventional communications systems are incapacitated. Stationary HAAs could afford responders and government officials a means for rapid communication.

Despite the potential of HAAs, prohibitively high costs and immature technology made HAAs a relatively low priority until the terrorist attacks of September 11, 2001. Since then, the DoD, Missile Defense Agency, Department of Homeland Security and North American Aerospace Defense Command have initiated plans to accelerate development of the HAA concept. A contract to deliver the first prototype HAA was awarded by the Missile Defense Agency to Lockheed Martin, which has begun development and plans to launch a prototype Test HAA in 2009. The development and launch of an operational prototype HAA are expected to follow. In October 2005, we, together with ITN and with the support of the Dow Corning Corporation, which plans to provide high-temperature silicone substrate materials in connection with our proposed participation in the operational prototype HAA project, submitted a written proposal to supply CIGS on high-temperature plastic substrate PV modules to Lockheed Martin for use on its operational prototype craft. Our proposal is divided into several development phases and a production phase. Participation in and throughout each phase generally is dependent upon performance. The production phase will follow completion of the development phase. Selection of suppliers is expected in the summer of 2006. We expect that if and when Lockheed Martin's planned operational prototype HAA is successfully demonstrated, the number of HAA systems will grow and PV power requirements will increase as the industry moves into full-scale production. We expect to be able to satisfy such increases in demand by growing our proposed production line, which will incorporate a modular design for relatively easy expansion, subject to the size of our facilities. Expansion of production also should permit us to recognize economies of scale, which should enable us to achieve lower manufacturing costs and thereby generate additional market opportunities. We also may supply PV modules to companies other than Lockheed Martin, including some commercial ventures, who also are developing their own HAA concepts and systems.

Technical Demands of Space and Near-Space Applications

Space and near-space systems require sources of energy to power communications, propulsion and other subsystems. PV technology is a logical choice for generating power because it is renewable and does not depend on an imported fuel source that would reduce other payload. Weight, volume, relative efficiency and cost play crucial roles in the selection of PV technology for space and near-space

applications. Because satellites, spacecraft and other orbiting systems must be launched into space or to very high altitudes, it is desirable to minimize both the weight and volume of PV devices so as to accommodate greater instrument payloads. At the same time, specific power (the amount of PV power produced relative to PV device weight, expressed as W/Kg), power density (the amount of PV power produced relative to the PV device area, expressed as W/m^2) and efficiency (a measure of sunlight-to-energy conversion, measured as a percentage) need to be maximized, while the cost per watt generated ($/W) needs to be minimized.

PV devices geared toward the terrestrial market, where weight and volume generally are not critical, typically employ traditional crystalline silicon solar cell technologies at prices less than $5/W at the array level. Because space and near-space markets require much more sophisticated PV technology, array-level prices of PV devices for space applications currently approach or exceed $1,000/W. Notwithstanding this premium in price, existing PV systems typically generate only about 70 W/Kg, requiring substantial weight in order to meet the power needs of the instruments to which the devices are attached and making them unlikely candidates for any space or near-space applications requiring a significant amount of power. Moreover, while the crystalline PV panels that currently dominate the market for space applications are very efficient (up to about 30%), they require flat, rigid and relatively heavy substrates that make them unsuitable for HAA. Thin-film PV technology offers a potential solution to these shortcomings.

Ascent's Technology: Thin-Film CIGS on Flexible High-Temperature Plastic Substrate

In the last decade, ITN has performed approximately 35 contracts for private and government entities in advanced PV technologies. Government sponsors of these contracts include the U.S. Air Force Research Laboratory, the National Science Foundation, the National Renewable Energy Laboratory ("NREL"), the Defense Advanced Research Projects Agency, the Missile Defense Agency and NASA. Through its work on these contracts, ITN has developed useful and proprietary processing and manufacturing know-how applicable to PV products generally and CIGS PV products in particular, including the creation and adoption of key processing technologies and the development of a monolithic integration fabrication process. ITN formed Ascent to commercialize this investment in CIGS PV technologies for the space and near-space markets. In January 2006, ITN assigned to us its key CIGS PV technologies and trade secrets and granted to us an exclusive, worldwide license to use certain of ITN's proprietary process, control and design technologies that we believe will be useful in our production of solar modules for our target markets. ITN also has agreed to design and build our initial production line, which will utilize ITN's proprietary roll-to-roll processing tools, real-time intelligent processing controls and thin-film processing technologies.

We believe that our use of CIGS on a flexible high-temperature plastic substrate will offer the best combination of efficiency, specific power and power density among competing technologies in the space and near-space markets. Furthermore, we believe that our proprietary fabrication process which, among other things, incorporates monolithic, cell-to-cell integration techniques will allow us to manufacture our planned products with significant cost savings compared with our competitors.

Ascent's Technical Advantages Over Competitors

Most PV companies employing thin-film techniques in commercial production currently use a-Si as an absorbing layer. Instead we have chosen CIGS because it offers inherent performance and physical advantages over the a-Si and cadmium telluride technologies. CIGS displays the highest efficiency of the three thin-film technologies, with a demonstrated cell efficiency of 19.5% by NREL in a terrestrial laboratory environment (compared with 12.9% demonstrated cell efficiency for a-Si under similar conditions). Unlike CIGS, a-Si exhibits inherent inefficiencies and measurable degradation when exposed to ultraviolet light, including ultraviolet light present in natural sunlight. To mitigate these effects, manufacturers using a-Si are forced to employ steps that add cost and complexity to the

manufacturing process. By using CIGS, we avoid these issues. While cadmium telluride has demonstrated efficiencies approaching that of CIGS, cadmium telluride currently requires use of a rigid, transparent substrate, which virtually disqualifies it as a candidate for a multitude of applications, such as Lockheed Martin planned operational prototype HAA project. We believe that our choice of CIGS therefore will provide us a significant technical advantage over competitors who use the alternative technologies of a-Si and cadmium telluride.

We also believe that we will hold a technical advantage over our competitors through our choice of high-temperature plastic as a substrate material. This flexible plastic is among the lightest materials currently available for PV modules and should offer us a substantial advantage in achieving the specific power and power density requirements of the planned operational prototype HAA project, as well as the more aggressive targets likely to be adopted for future HAA projects. We believe that our CIGs on high-temperature plastic devices should result in superior specific power and power density performance relative to competing devices that incorporate heavier substrate materials such as stainless steel or other metal foils.

Our planned use of a roll-to-roll manufacturing process (which enables us to fabricate our flexible PV modules in large format or continuous operations), together with our use of proprietary monolithic, cell-to-cell integration techniques (which allows us to avoid the time-consuming, weight-additive and labor-intensive step of manually connecting individual solar cells), also should afford us technical and cost advantages over our competitors. Over the past 12 years, ITN has developed proprietary sensor-based controls and intelligent process controls for use in the roll-to-roll production of thin-film CIGS PV modules, and we are now a beneficiary of that expertise.

In sum, the technical advancements that we believe will distinguish us from our competitors in the space and near-space markets include:

- Our use of CIGS, which we believe will offer the highest efficiencies of the three candidate thin-film technologies and which can be deposited on variety of flexible substrates;

- Our use of high-temperature plastic as a substrate material, which not only is flexible, lightweight and relatively inexpensive but also provides us the ability to achieve the challenging specific power and power density requirements for space and near-space programs;

- Our experience with, and ITN's demonstrated ability to implement, roll-to-roll manufacturing in the context of thin-film CIGS PV modules; and

- Our use of proprietary monolithic integration techniques, which eliminates an entire back-end processing step in the assembly of a PV module, and that should save us time, labor and money relative to our competitors while also potentially offering measurable performance and weight advantages.

We are pursuing improvements and enhancements to bolster performance of our PV modules including use of a high-temperature substrate, which allows for a higher CIGS processing temperature and, hence, higher efficiencies and incorporation of a two-junction (tandem) thin-film technology using a novel high-efficiency top cell in conjunction with proven high-efficiency CIGS PV bottom cell. Our longer-term objective is to develop flexible, low-weight, low-cost PV modules with efficiencies exceeding 15%, specific power in excess of 1,000 W/kg and packaging of one-tenth the volume of existing systems.

Finally, although our products will be designed and manufactured specifically for the rigorous demands of the space and near-space markets, in the future it is possible that some of our technologies and advancements may be used in a line of products geared toward terrestrial applications. Although we currently have no plans to initiate sales into the terrestrial market, we believe that significant improvements over time in our manufacturing processes and technical enhancements to our planned

products could substantially decrease our incremental manufacturing costs to a point where entry into the terrestrial market becomes economically viable.

Although we believe that we will hold technical advantages over our competitors in the aspects described above, we still face a number of technical challenges if we are to meet our planned 2008 production deadline with products that satisfy the technical specifications demanded by prospective customers. These challenges are detailed in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and also are described below.

We currently obtain the majority of our high-temperature plastic substrate material from Ube Industries, Ltd. (Japan). We believe the supply of this material from Ube will be available to us in commercial quantities. However, we also have tested our CIGS absorbing layer on a relatively new high-temperature silicone resin (also a form of plastic) substrate material developed by the Dow Corning Corporation. The DCC substrate material can be processed at a higher temperature than the Ube substrate material, a feature that typically results in higher PV efficiencies. We therefore believe that the DCC substrate can be successfully used in our planned CIGS PV products in space and near-space applications, where efficiencies and weight are a critical measurement. To date, the DCC substrate is not commercially available. However, DCC has informed us that it is improving on its ability to provide the material in larger quantities. If sufficient quantities are not available when we begin production, we will be forced to rely on Ube and other suppliers to provide substrate materials that may result in lower efficiencies for our planned products. Although we do not expect serious technical difficulties in the use of materials from these alternate suppliers, the impact on efficiencies may affect evaluation and qualification of our planned products by our customers and force us to boost efficiencies through implementation of other technologies, some of which (such as tandem-junction devices) already are under development by us.

Meeting the projected deadlines also requires final testing and integration of our monolithic integration technology by early 2007. We intend to tailor monolithic integration technology developed by ITN for use in our planned production line. All laser patterning steps and printing steps have been separately demonstrated, and the first monolithically integrated module has been produced. We are optimizing the monolithic integration process with Ube's substrate materials for space and near space applications, while ITN is modifying the process for use with DCC's silicone resin substrate material, with the technical aspects of ITN's development to be assigned to us. We expect to be able to demonstrate monolithic integration processes for both substrate materials by the third quarter of 2006, but if we are unable to do so before the latter half of 2007, we might opt to manufacture discrete cells instead of modules. We would then integrate the cells into modules employing approaches developed for use with CIGS on stainless steel substrates. The additional interconnect steps would add cost to our end products, leaving product weight and efficiencies as the primary advantages we believe that our planned products would have over those of competitors.

We also need to tailor the automated manufacturing control technology developed by ITN, which we refer to as intelligent process controls, for use in our planned production line. We believe that implementation of intelligent process controls, which continuously monitor the manufacturing process, will help to control and maximize product yields and device efficiencies. The manufacturing process parameters that have demonstrated promising results in small batches at laboratory level may require additional development as we scale up to large area continuous roll-to-roll production methods in much larger manufacturing equipment.

Ascent's Strategic Advantages Over Competitors

We believe that we can introduce a product into the HAA market that delivers superior performance at a lower cost than competing technologies. If we are successful in doing so, we believe

that the following factors, together with the technical advantages of our PV products, will offer us a competitive advantage in the space and near-space markets:

- We intend to be the first to market with a flexible thin-film PV product that meets the specific power and power density requirements of the planned operational prototype HAA project and future HAA systems;
- We intend to offer the lowest-cost solution to ensure that our PV modules becomes the *de facto* standard for full-scale HAA systems;
- We have the benefit of, and draw upon, the extensive experience and expertise of our key personnel in the thin-film, PV and aerospace industries;
- We benefit from our close and continuing business relationships with ITN and MicroSat Systems, Inc. ("MicroSat"), another ITN-initiated business, which designs and builds small, high performance satellites for military and commercial applications;
- Our key management and that of ITN and MicroSat share long-standing relationships with the U.S. Air Force Research Laboratory, NASA and other government agencies;
- Our PV modules are designed specifically for the unique requirements of the space and near-space markets, and our production line will be custom-built for that purpose; and
- We aggressively pursue improvements and enhancements to our existing technology and development of new technologies.

By way of illustration, our close relationship with ITN and MicroSat may offer us testing or marketing opportunities typically unavailable through third parties. We are pursuing flight demonstration opportunities with MicroSat, including one involving a MicroSat-developed patented, foldable array known as a "Fold Integrated Thin-film Stiffener" solar array deployment system ("FITS") that can incorporate our thin-film PV modules. We may choose to jointly market FITS with MicroSat to commercial and government customers. We believe that successful early demonstration of FITS in the space satellite market will help validate our CIGS on high-temperature plastic PV modules for future space applications.

Key Competitors

Competition in the near-space market currently is limited to other flexible thin-film PV device manufacturers, while competition in the space market also includes rigid PV device manufacturers. We believe that our primary competitors include United Solar Ovonic, a subsidiary of Energy Conversion Devices, Inc. ("Uni-Solar"), Global Solar Energy, Inc., a subsidiary of UniSource Energy Corporation ("GSE"), and DayStar Technologies, Inc. ("DayStar"). Uni-Solar, which employs a-Si technology, is an established participant in terrestrial market for solar power. Despite Uni-Solar's commercial success in that market, and although Uni-Solar is providing PV modules for use on the Test HAA that Lockheed Martin has announced is scheduled to be launched in 2009, we believe that our flexible CIGS on high-temperature plastic PV modules will prove technically superior to Uni-Solar's devices when used on operational vehicles in space and near-space applications and that our focus on these markets will provide an advantage over Uni-Solar.

GSE was established in 1996 as a venture between ITN and Tucson Electric Power Company, which was later acquired by UniSource Energy Corporation. Now wholly owned by UniSource, GSE, together with DayStar are, to our knowledge, the only other companies actively exploring the production of a CIGS-based product on a flexible substrate for the space and near-space markets. Both DayStar and GSE's baseline products use a metal foil substrate for space and HAA applications. Given comparable efficiencies, our CIGS on high-temperature plastic substrate cells will have a higher specific power than a CIGS product on metallic foil due to our choice of lightweight material. Furthermore,

CIGS on a metallic foil must be interconnected, either by hand or by automation equipment, resulting in added weight and complexity. Our use of a high-temperature plastic substrate and monolithically interconnected devices avoids these issues.

Intellectual Property

In January 2006, ITN assigned to us its key CIGS PV technologies, including a pending patent application titled "Apparatus and Method of Production of Thin Film Photovoltaic Cell," filed on July 19, 2002 (Serial No. 10/197,813), certain unpublished invention disclosures relating to the design and fabrication of CIGS PV solar cells, and trade secrets relating to proprietary manufacture, process and control steps in the CIGS PV field. ITN also granted to us a perpetual, exclusive, worldwide license to use certain of ITN's proprietary process, control and design technologies that, although non-specific to CIGS PV, we believe will be useful in our production of solar modules for our target markets.

In early April 2006, we entered into a non-exclusive patent license agreement with Midwest Research Institute ("MRI"). MRI manages and serves as operating contractor for NREL under a prime contract with the U.S. Department of Energy ("DOE"). Pursuant to the prime contract, MRI acquired the rights to license certain inventions developed at NREL. We have acquired a world-wide, non-exclusive commercial license to the following U.S. patents and their foreign counterparts: U.S. Patent Nos. 5,356,839, 5,441,897 and 5,436,204; European Patent No. EP0694209 and European patent application serial no. 95929367.1 (for the EU, Belgium, France, United Kingdom, Germany and Netherlands); Japanese Patent Nos. 3130943 and 3258667 and Japanese patent application serial no. 8-508088. The license is effective so long as any claim of the licensed inventions is enforceable. We also are in the process of obtaining, and have signed a letter of intent regarding, a non-exclusive license from the University of Delaware's Institute of Energy Conversion ("IEC") for U.S. Patent Nos. 6,310,281, 6,372,538, 6,537,845 and 6,562,405, as well as U.S. patent application serial No. 60/620,352. These patents and patent applications relate to the fabrication of CIGS on flexible plastic substrates, the use of laser patterning and thin-film deposition during the fabrication of flexible monolithically-integrated CIGS PV devices and certain process steps that we intend to use during the manufacturing process. We expect that a non-exclusive license agreement will be finalized and executed after this offering.

Suppliers

We rely on several unaffiliated companies to supply certain ingredients and materials used during the fabrication of our PV modules. We acquire these materials on a purchase order basis and do not have long-term contracts with the suppliers, although we may enter such contracts. We acquire our high-temperature plastic from Ube Industries, Ltd. (Japan), although alternative suppliers of similar materials exist. In particular, we are working with the Dow Corning Corporation ("DCC") to ascertain whether commercial quantities of DCC's new silicone resin substrate material will be available by the time we intend to begin production in 2008. We purchase component copper, indium, gallium and selenium from a variety of suppliers. Our production line will be assembled using off-the-shelf components, custom processing tools and software developed by ITN and other commercially available equipment and tools.

Employees

As of June 30, 2006, we had four full-time employees, including three executive officers of the Company and a project engineer. The number of employees should grow significantly as we install manufacturing capacity and as ITN's R&D contracts with third parties are transferred to us along with some of the scientists, engineers, and technicians working on those projects. The current PV programs at ITN support approximately two senior scientists, six engineers, and two process technicians. Transfer

of the research and development contracts is predicated on obtaining consent from the government agencies and entities that are party to the contracts, which may in some cases take several months. If and when ITN secures the necessary consents, it will transfer the contracts and employees to us.

In contrast to these R&D activities described above, our core business will involve the manufacturing of PV modules, initially for space and near-space applications. As such, we anticipate that most of our employees will be involved in production, operation, and related product development and product support functions. During the first year of operations, we will focus on the development and installation of a 500 kW/shift/year production line. Once the line has been installed, we intend to hire technicians, product technical engineers and quality control engineers to staff the facility. We plan to hire a vice president of operations after this offering to manage the development and installation of the manufacturing line.

Initially, ITN will provide us with general and administrative support services, at cost, such as human resources, facility management, information technology support, government contract administration, and payroll processing. This should permit us to avoid the cost of hiring individual employees and related infrastructure expenses in the near-term.

Property

Our facilities are located in Littleton, Colorado. We sublease approximately 9,500 square feet of office and manufacturing space at cost from ITN, which occupies space adjacent to ours. The sublease expires in June 2010. In 2006, we will pay $11,997 per month in rent, plus pass-through expenses such as taxes, insurance, water and utilities. We may sublease additional space from ITN as the need arises and as contracts are transferred to us.

Legal Proceedings

We do not know of any pending or threatened legal proceedings to which we are or would be a party or any proceedings being contemplated by governmental authorities against us, or any of our executive officers or directors relating to their services on our behalf.

Company History

Ascent was formed in October 2005 to commercialize certain PV technology developed by our parent company ITN for space and near-space applications. ITN, a private company incorporated in 1994, is an incubator dedicated to the development of cutting-edge thin-film, PV, battery and fuel cell technologies. Dr. Mohan Misra, Chairman of our Board, owns the majority of the stock in ITN.

MANAGEMENT

Directors, Executive Officers and Key Employees

Our executive officers, directors and key employees, and their ages as of June 30, 2006, are as follows:

Name	Age	Position
Matthew Foster	49	President and Chief Executive Officer
Joseph Armstrong, Ph.D.	49	Vice-President and Chief Technology Officer
Janet Casteel	45	Chief Accounting Officer and Treasurer
Mohan S. Misra, Ph.D.	62	Chairman of the Board
Stanley Gallery	48	Director
Ashutosh Misra	41	Director
T.W. Fraser Russell, Ph.D.	71	Director
Mark T. Waller	55	Director

Matthew Foster has served as our President and Chief Executive Officer since October 2005. From March 2004 until Ascent's formation in October 2005, Mr. Foster served as Executive Vice President of ITN Energy Systems, Inc., where he developed and implemented plans to commercialize other ITN technologies such as thin-film battery systems and microsatellites, which developed into companies Infinite Power Solutions, Inc. and MicroSat Systems, Inc., respectively. From January 2001 until March 2004, he served as President and Chief Executive Officer of Infinite Power Solutions. Mr. Foster holds a B.S. degree from Rensselaer Polytechnic Institute.

Joseph Armstrong, Ph.D. has served as our Chief Technology Officer since October 2005. Dr. Armstrong served as the Manager of ITN's Advanced PVs Division from 1995 until joining Ascent in October 2005. While at ITN, Dr. Armstrong led its advancement into thin-film flexible PV products for space and near-space applications and started its development of thin-film battery technologies, a complement to Ascent's thin-film PV technology. He is a named inventor on four U.S. patents in areas including shape memory alloys, thin-film PV technology and electronic circuit assembly. Dr. Armstrong holds a B.S. degree in Physics from Lewis University in Illinois and a M.S. degree and Ph.D. in Solid State Physics from the University of Denver.

Janet Casteel has served as our Chief Accounting Officer and Treasurer since February 2006. She served on a part-time basis as our Treasurer and Controller between October 2005 and February 2006, during which time she also served as the part-time business manager of ITN. From 1996 until February 2006, Ms. Casteel served in the capacity of controller and business manager of ITN. At ITN, she supervised the financial and accounting staffs and was responsible for negotiation and administration of ITN's government and commercial contracts, as well as its agreements with subcontractors. She is a member of the American Institute of Certified Public Accountants and is a CPA (inactive) in Colorado. Ms. Casteel holds an Associate Degree in Business Administration from Nebraska College of Business and a B.S. degree in Accounting from Metropolitan State College in Denver.

Mohan S. Misra, Ph.D. has served as Chairman of our Board of Directors since October 2005. He founded and has served as chief executive officer of ITN since 1994. Dr. Misra has helped develop and implement several key technologies for aerospace applications including thin-film PVs, smart materials, advanced composites and lightweight structures. Dr. Misra holds a B.S. degree in Metallurgical Engineering from Benaras Hindu University in India, a M.S. degree in Metallurgical Engineering from the University of Washington and a Ph.D. in Metallurgical Engineering from the Colorado School of Mines. Dr. Misra is the uncle of Ashutosh Misra, a director.

Stanley Gallery has served on our Board of Directors since October 2005. Since 1984, Mr. Gallery has been the chief executive officer of Carts of Colorado, Inc., a provider of mobile merchandising for the food service industry. He also has served as the managing partner of G3 Holdings LLC since 1997, which makes real estate and other investments. He also is a co-founder of Bluegate Creek JV and Bluegate Creek II, which are oil and gas ventures in Wyoming. Prior to joining Ascent, Mr. Gallery served on the board of directors of ITN from 2001 until joining our Board in October 2005.

Ashutosh Misra has served on our Board of Directors since October 2005. Mr. Misra is Vice President of Operations and General Manager of ITN where he is responsible for ITN's accounting and finance, human resources, facilities, information technology and laboratory operations. He has served in that role since 1998. He also presided over the prior separation of three separate companies from ITN. From November 2002 until March 2005, Mr. Misra also served as the president and chief executive officer of Data Access America, a wholly owned subsidiary of Data Access India, Limited, a telecommunications carrier based in India. Mr. Misra holds a Bachelor of Engineering Degree in Electronics and Telecommunications from Bangalore University in India, and a M.S. degree in Electrical Engineering from the University of Wisconsin, Milwaukee. Mr. Misra is the nephew of Dr. Misra, our Chairman.

T.W. Fraser Russell, Ph.D. has served on our Board of Directors since October 2005. Dr. Russell has served as the Allan P. Colburn Professor in the Department of Chemical Engineering at the University of Delaware since 1981. Dr. Russell is a member of the National Academy of Engineering and a fellow of the American Institute of Chemical Engineers. He is the inventor on four U.S. patents on thin-film continuous deposition and has authored numerous engineering and scientific articles on thin-film photovoltaics. He directed the Institute of Energy Conversion at the University of Delaware where he directed the research which led to the first ever deposition of semi-conductor continuously on a moving substrate. Dr. Russell served as a member and chairman of a committee of the National Renewable Energy Laboratory that was charged with reviewing and recommending PV research programs. Dr. Russell holds a B.Sc. degree and a M.Sc. degree from the University of Alberta in Canada and a Ph.D. from the University of Delaware.

Mark T. Waller has served on our Board of Directors since October 2005. He is the president and founder of BridgeWorks Capital, which he co-founded in 1988, a specialized merchant bank focusing on the organization and financing of small- and micro-cap companies. He attended Reed College in Portland, Oregon.

Technical Advisory Group

We have a Technical Advisory Group ("TAG") currently comprised of no more than five individuals with technical expertise, experience and industry knowledge that may benefit us. Members of our TAG are selected by our Board of Directors and are expected to make themselves available, upon request, for consultation with our management and employees for up to 40 hours each year. The role of our TAG is to provide, upon request, objective analysis and critique of our technical approaches and to advise us on the soundness of our production plans, processes and controls. Although members of the TAG may be approached individually by management or employees for consultation, the TAG is expected to meet periodically as a group to discuss their assessments and to report recommendations, if any, to our Board of Directors. Because members of our TAG are not employees of Ascent, they are not obligated to assign their inventions to the Company, nor must they offer business opportunities that they encounter to the Company. In addition to Dr. Mohan Misra, our Chairman, the members of our TAG, all of whom joined the TAG in November 2005, are:

Rajeewa R. Arya, Ph.D. is the principal of Arya International, Inc., which provides consulting services in the area of solar technology and business. Dr. Arya previously spent almost 19 years with BP Solar and its predecessor companies, where he oversaw technology teams and spearheaded PV

research programs involving amorphous silicon, copper-indium-diselenide and cadmium telluride. Dr. Arya has co-authored more than 100 technical papers and is a named inventor on several U.S. patents. Dr. Arya holds an M.Sc. degree in Solid State Physics from Jadavpur University in India, an M. Tech. degree in Materials Science from the Indian Institute of Technology and a Ph.D. in Engineering from Brown University.

Bruce Lanning, Ph.D. is the manager of the thin-film technologies group at ITN, a group he also managed until 2002. From 2002 until November 2005, Dr. Lanning was the principal scientist at the Southwest Research Institute, where he investigated the development of a wireless thin-film sensor system for the U.S. Department of Energy. Dr. Lanning holds a B.S. degree, M.S. degree and Ph.D. in Metallurgical Engineering from the Colorado School of Mines.

Robert W. Birkmire, Ph.D. is the Director of the University of Delaware's Institute of Energy Conversion which is devoted to research and development of thin-film PV solar cells and other photonic devices. Dr. Birkmire is the co-author of numerous technical papers and is a named inventor on several U.S. patents. Dr. Birkmire holds a B.S. degree in Physics from the Lowell Technological Institute in Massachusetts and a Ph.D. in Physics from the University of Delaware.

Each member of our TAG receives an option to purchase up to 15,000 shares of our common stock upon appointment.

Board of Directors

Our Bylaws provide that the authorized size of our Board of Directors, which currently is five members, is to be determined from time to time by resolution of the Board of Directors, but shall consist of at least two and no more than eight members. Our Board of Directors is divided into three classes as nearly equal in number as possible. Each year the shareholders elect the members of one of the three classes to three-year terms of office. Currently, Messrs. Ashutosh Misra and Waller serve as Class 1 directors, whose terms expire in 2009, Mr. Gallery and Dr. Russell serve as Class 2 directors, whose terms expire in 2007, and Dr. Mohan Misra serves as a Class 3 director, whose term expires in 2008.

Committees of the Board of Directors

Our Board of Directors has three standing committees: an Audit Committee, a Compensation Committee and a Nominating and Governance Committee.

Audit Committee. Our Audit Committee oversees our accounting and financial reporting processes, internal systems of accounting and financial controls, relationships with independent auditors, and audits of financial statements. Specific responsibilities include the following:

- selecting, hiring and terminating our independent auditors;
- evaluating the qualifications, independence and performance of our independent auditors;
- approving the audit and non-audit services to be performed by our independent auditors;
- reviewing the design, implementation, adequacy and effectiveness of our internal controls and critical accounting policies;
- overseeing and monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to financial statements or accounting matters;
- reviewing, with management and our independent auditors, any earnings announcements and other public announcements regarding our results of operations; and

preparing the report that the Securities and Exchange Commission requires in our annual proxy statement.

Our Audit Committee is comprised of Mr. Gallery, Dr. Russell and Mr. Waller. Mr. Waller serves as Chairman of the Audit Committee. The Board has determined that all members of the Audit Committee are independent under the rules of the Securities and Exchange Commission and the Nasdaq Stock Market and that Mr. Waller qualifies as an "audit committee financial expert," as defined by the rules of the Commission.

Compensation Committee. Our Compensation Committee assists our Board of Directors in determining the development plans and compensation of our officers, directors and employees. Specific responsibilities include the following:

approving the compensation and benefits of our executive officers;

reviewing the performance objectives and actual performance of our officers; and

administering our stock option and other equity compensation plans.

Our Compensation Committee is comprised of Mr. Gallery, Dr. Russell and Mr. Waller. Mr. Gallery serves as Chairman of the Compensation Committee. Our Board has determined that all members of the Compensation Committee are independent under the rules of the Nasdaq Stock Market.

Nominating and Governance Committee. Our Nominating and Governance Committee assists our Board by identifying and recommending individuals qualified to become members of our Board of Directors, reviewing correspondence from our stockholders, and establishing, evaluating and overseeing our corporate governance guidelines. Specific responsibilities include the following:

evaluating the composition, size and governance of our Board of Directors and its committees and making recommendations regarding future planning and the appointment of directors to our committees;

establishing a policy for considering shareholder nominees for election to our Board; and

evaluating and recommending candidates for election to our Board.

Our Nominating and Governance Committee is comprised of Mr. Gallery, Dr. Russell and Mr. Waller. Mr. Gallery serves as Chairman of our Nominating and Governance Committee. Our Board has determined that all members of the Nominating and Governance Committee are independent under the rules of the Nasdaq Stock Market.

Compensation Committee Interlocks and Insider Participation

None of the members of our Compensation Committee will be one of our officers or employees. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our Board of Directors or Compensation Committee.

Director Compensation

Our non-employee directors each receives an annual fee of $5,000 for his or her service on our Board, plus $1,000 for each meeting of our Board or board committee that the director attends in person and $250 for each meeting attended by telephone or videoconference. Each non-employee director also receives reimbursement of travel and other expenses incurred to attend a meeting in person. Each of our directors has been granted an option to purchase 20,000 shares of our common

stock as compensation for service on our Board, and each of our non-employee directors has received an additional option to purchase 12,000 shares for service on the committees of our Board.

Executive Compensation

Because we were incorporated in October 2005, no compensation was paid by us to our officers in 2003 and 2004. The following table sets forth information concerning total compensation that we paid to our Chief Executive Officer in 2005. No officer has yet earned more than $100,000 in total compensation from us in any fiscal year. For information about annual compensation arrangements with our executive officer, see "Employment Agreements."

Summary Compensation Table

		Long-Term Compensation		
		Annual Compensation	Awards	
Name and Principal Position	Fiscal Year	Salary ($)	Securities Underlying Options/ SARs (#)	All Other Comp. ($)
Matthew Foster, Chief Executive Officer	2005	$ 9,511	30,000	(1)

(1) In our financial statements for the period from our inception to December 31, 2005, we have reported a value for our common stock of $1.00 on the date shares were sold to Mr. Foster and $1.20 on the date options with an exercise price of $0.10 per share were granted to Mr. Foster. For the period, we therefore recorded cash compensation to Mr. Foster of $9,511 in salary and $70,812 in non-cash compensation attributable to the sale of stock and grant of options to him.

Option Grants in Last Fiscal Year

The following table sets forth information concerning stock option grants to our Chief Executive Officer during 2005. The percentage of total options is based on an aggregate of 90,000 options granted to employees for the year ended December 31, 2005.

Option Grants in Fiscal Year 2005 (Individual Grants)

Name	Number of Securities Underlying Options/SARs granted (#)	Percent of total options/SARs granted to employees in fiscal year	Exercise or base price ($/sh)	Expiration Date
Matthew Foster	30,000	33.3%	$ 0.10	November 18, 2015

Option Exercises and Holdings

The following table sets forth, as to our Chief Executive Officer, certain information concerning the number of shares subject to both exercisable and unexercisable stock options as of December 31, 2005, and the number of shares of common stock received upon exercise of options during the year ended December 31, 2005.

Aggregated Option Exercises in Fiscal Year 2005 and Fiscal Year-End Option Values

Name	Shares Acquired on Exercise (#)	Value Realized ($)	Number of Shares Underlying Unexercised Options at December 31, 2005 (#) Exercisable/Unexercisable	Value of Unexercised In-the-Money Options at December 31, 2005 ($) Exercisable/Unexercisable(1)
Matthew Foster	0	n/a	0 / 30,000	$0 / $162,000

(1) Assumes a share price of $5.50, the offering price per unit.

Employment Agreements

We have executive employment agreements with Matthew Foster, our Chief Executive Officer, Janet Casteel, our Chief Accounting Officer and Treasurer, and Joseph Armstrong, our Vice-President and Chief Technology Officer. Each executive employment agreement has a term of three years and expires in December 2008 in the cases of Mr. Foster and Dr. Armstrong, and in February 2009 in the case of Ms. Casteel. Under the terms of his agreement, Mr. Foster is entitled to a base salary of $175,000 per year and a discretionary bonus of up to 30% of that base salary based upon his individual performance and our performance as a company. Ms. Casteel earns a base salary of $108,000 per year and may receive a discretionary bonus of up to 15% of that base salary based upon her individual performance and our performance as a company. Dr. Armstrong earns a base salary of $120,000 per year and may receive a discretionary bonus of up to 15% of that base salary based upon his individual performance and our performance as a company. Bonuses are not ensured and are awarded at the discretion of the Board. Each agreement may be terminated without notice if for cause, but 30 days' advance notice is required for termination without cause. Further, if either Mr. Foster is terminated without cause during the term of his employment agreement, he will be entitled to receive his base salary for a period of twelve months after termination. If either Dr. Armstrong or Ms. Casteel is terminated without cause during the term of his or her agreement, he or she will be entitled to receive his or her base salary for a period of six months after termination.

Stock Option Plan

In October 2005, our Board of Directors approved our 2005 Stock Option Plan (the "Option Plan"). The Option Plan was then approved by our stockholders in November 2005. The Option Plan authorizes the grant and issuance of options and other equity compensation to employees, officers and consultants. A total of 750,000 shares of common stock are reserved for issuance under the Option Plan.

The Option Plan is administered by the Compensation Committee of the Board of Directors. Subject to the provisions of the Option Plan, the Committee determines who will receive the options, the number of options granted, the manner of exercise and the exercise price of the options. The term of incentive stock options grant