

Prospectus

699,298 Shares



PDF Solutions, Inc.

Common Stock

This prospectus relates to the sale of up to 699,298 shares of our common stock. These shares may be offered and sold from time to time by certain of our stockholders, as identified below in the section titled "Selling Stockholders." We will not receive any proceeds from the sale of the shares by the selling stockholders. On October 31, 2006, 580,228 of the shares were issued to the selling stockholders in connection with the acquisition of Si Automation, S.A., a privately held Fault Detection and Classification software and services provider, based in Montpellier, France ("SIA"), and an additional 119,070 may be issued to the selling stockholders if certain milestones are met. The selling stockholders may sell the shares from time to time on the Nasdaq National Market in regular brokerage transactions, in transactions directly with market makers or in certain privately negotiated transactions. For additional information on the methods of sale, you should refer to the section titled "Plan of Distribution." Each selling stockholder has advised us that no sale or distribution other than as disclosed herein will be effected until after this prospectus shall have been appropriately amended or supplemented, if required, to set forth the terms thereof. Selling commissions, brokerage fees, any applicable stock transfer taxes and any fees and disbursements of counsel to the selling stockholders are payable individually by the selling stockholders.

On March 19, 2007, the last sale price of our common stock on the Nasdaq National Market was \$10.11 per share. Our common stock is listed for quotation on the Nasdaq National Market under the symbol "PDFS."

Investing in our common stock involves certain risks. See "Risk Factors" beginning on page 2.

These securities have not been approved or disapproved by the Securities and Exchange Commission or any state securities commission nor has the Securities and Exchange Commission or any state securities commission passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus is March 20, 2007

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No person has been authorized to give any information or make any representations in connection with this offering other than those contained in this prospectus and, if given or made, such information or representations must not be relied upon as having been authorized by us. This prospectus does not constitute an offer to sell or a solicitation of any offer to buy any of the securities offered hereby by anyone in any jurisdiction in which it is unlawful to make such offer or solicitation. Neither the delivery of this prospectus nor any sale made hereunder shall, under any circumstances, create any implication that the information contained herein is correct as of any time subsequent to the date of the prospectus.

INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements contained or incorporated by reference in this prospectus are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Words such as “anticipate,” “continue,” “could,” “projected,” “expects,” “believes,” “intends”, and “assumes”, the negative of these terms and similar expressions are used to identify forward-looking statements. These statements are made based upon current expectations and projections about our business and the semiconductor industry and assumptions made by our management are not guarantees of future performance, nor do we assume any obligation to update such forward-looking statements after the date this report is filed. Our actual results could differ materially from those projected in the forward-looking statements for many reasons, including the risk factors listed in the Risk Factors section. All forward-looking statements in this prospectus are based on information available to us at the date of this report and we assume no obligation to update any such statements.

The following information should be read in conjunction with the Consolidated Financial Statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2006, as filed with the SEC on March 16, 2007. All references to fiscal year apply to our fiscal year which ends on December 31.

THE COMPANY

Our technologies and services enable semiconductor companies to improve the yield and performance of integrated circuits, or ICs, by integrating the design and manufacturing processes. We believe that our solutions improve a semiconductor company's time-to-market, yield and ultimately product profitability. Our solutions combine proprietary manufacturing process simulation software, yield and performance modeling software, design-for-manufacturability software, test chips, a proprietary electrical wafer test system, yield and performance enhancement methodologies, yield management systems, and professional services. We analyze yield loss mechanisms to identify, quantify and correct the issues that cause yield loss, as an integral part of the IC design process. This drives IC design and manufacturing improvements that enable our customers to have higher initial yields and achieve and exceed targeted IC yield and performance throughout product life cycles. Our solution is designed to increase the initial yield when a design first enters a manufacturing line, to increase the rate at which that yield improves, and to allow subsequent product designs to be added to manufacturing lines more quickly and easily.

The result of implementing our solutions is the creation of value that can be measured based on improvements to our customers' actual yield. We align our financial interests with the yield and performance improvements realized by our customers, and receive revenue based on this value. To date, we have sold our technologies and services to semiconductor companies including leading integrated device manufacturers, fabless semiconductor companies and foundries.

From our incorporation in 1992 through late 1995, we were primarily focused on research and development of our proprietary manufacturing process simulation and yield and performance modeling software. From late 1995 through late 1998, we continued to refine and sell our software, while expanding our offering to include yield and performance improvement consulting services. In late 1998, we began to sell our software and consulting services, together with our newly developed proprietary technologies, as Design-to-Silicon-Yield solutions, reflecting our current business model. In April 2000, we expanded our research and development team and gained additional technology by acquiring AISS, now operating as PDF Solutions, GmbH, which continues to develop software and provide development services to the semiconductor industry. In July 2001, we completed the initial public offering of our common stock. In 2003, we enhanced our product and service offerings through the acquisitions of IDS and WaferYield. In 2006, we further complimented our technology offering through the acquisition of Si Automation S.A.

Our address:

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As used in this prospectus, "we," "us," "our", "the Company", and "PDF" refer to PDF Solutions, Inc., a Delaware corporation.

RISK FACTORS

An investment in our common stock involves a high degree of risk. You should carefully consider the information contained in the sections titled “Risk Factors” in Part I — Item 1A of our Annual Report on Form 10-K, “Risk Factors” in Part II — Item 1A of our Quarterly Reports on Form 10-Q and the risks described below, together with the other information contained in, or incorporated by reference into, this prospectus, before you decide whether to buy our common stock. If any of the events described in these risks actually occurs, the market price of our common stock could decline, and you may lose all or part of the money you paid to buy our common stock.

If semiconductor designers and manufacturers do not continue to adopt our Design-to-Silicon-Yield solutions, we may be unable to increase or maintain our revenue.

If semiconductor designers and manufacturers do not continue to adopt our Design-to-Silicon-Yield solutions, our revenue could decline. To date, we have worked with a limited number of semiconductor companies on a limited number of IC products and processes. To be successful, we will need to continue to enter into agreements covering a larger number of IC products and processes with existing customers and new customers. Our existing customers are primarily large integrated device manufacturers, or IDMs. We target as new customers additional IDMs, fabless semiconductor companies, and foundries, as well as system manufacturers. Factors that may limit adoption of our Design-to-Silicon-Yield solutions by semiconductor companies include:

- our customers’ failure to achieve satisfactory yield improvements using our Design-to-Silicon-Yield solutions;
- a decrease in demand for semiconductors generally or the demand for deep submicron semiconductors failing to grow as rapidly as expected;
- the industry may develop alternative methods to enhance the integration between the semiconductor design and manufacturing processes due to a rapidly evolving market and the likely emergence of new technologies;
- our existing and potential customers’ reluctance to understand and accept our innovative gain share fee component; and
- our customers’ concern about our ability to keep highly competitive information confidential.

We generate a large percentage of our total revenue from a limited number of customers, so the loss of any one of these customers could significantly reduce our revenue and results of operations below expectations.

Historically, we have had a small number of large customers for our core Design-to-Silicon-Yield solutions and we expect this to continue in the near term. In the year ended December 31, 2006, two customers accounted for 37% of our total net revenue, with International Business Machines Corporation representing 25% and Toshiba Corporation representing 12%. In the year ended December 31, 2005, four customers accounted for 49% of our total net revenue, with Texas Instruments representing 15%, International Business Machines representing 13%, Matsushita representing 11% and Toshiba representing 10%. We could lose a customer due to such customer’s decision not to engage us on future process nodes, its decision not to develop its own future process node, or as a result of industry consolidation. The loss of any of these customers or a decrease in the sales volumes of their products could significantly reduce our total revenue below expectations. In particular, such a loss could cause significant fluctuations in results of operations because our expenses are fixed in the short term and it takes us a long time to replace customers.

If integrated device manufacturers of logic integrated circuits reduce investment in new process technology as a result of a shift to a fabless manufacturing business model, the pool of potential logic customers for our yield ramp solutions will shrink and our results of operations may suffer.

Historically, the majority of our revenue from integrated yield ramps has been derived from integrated device manufacturers (IDMs) of logic integrated circuits (ICs). If IDMs decide to discontinue or significantly cut back their investment in the development of new process technology as a result of a shift to a model of outsourcing a larger proportion, or all, of the mass production of their ICs, there may be fewer IDMs that are potential customers for our solutions that integrate product designs with in-house manufacturing processes. As a result, the revenue we are able to generate from integrated yield ramps for logic ICs could fall below levels that are currently expected. Also, because our expenses are fixed in the short term and it takes a long time for us to replace customers, such a reduction in revenue could cause significant fluctuations in results of operations.

We must effectively manage and support our operations and recent and planned growth in order for our business strategy to succeed.

We will need to continue to grow in all areas of operation and successfully integrate and support our existing and new employees into our operations, or we may be unable to implement our business strategy in the time frame we anticipate, if at all. We have in the past, and may in the future, experience interruptions in our information systems on which our global operations depend. Further, physical damage to, failure of, or digital damage (such as significant viruses or worms) to, our information systems could disrupt and delay time-sensitive services or computing operations that we perform for our customers, which could negatively impact our business results and reputation. We may need to switch to a new accounting system in the near future, which could disrupt our business operations and distract management. In addition, we will need to expand our intranet to support new data centers to enhance our research and development efforts. Our intranet is expensive to expand and must be highly secure due to the sensitive nature of our customers' information that we transmit. Building and managing the support necessary for our growth places significant demands on our management and resources. These demands may divert these resources from the continued growth of our business and implementation of our business strategy. Further, we must adequately train our new personnel, especially our client service and technical support personnel, to effectively and accurately, respond to and support our customers. If we fail to do this, it could lead to dissatisfaction among our customers, which could slow our growth.

If we fail to protect our intellectual property rights, customers or potential competitors may be able to use our technologies to develop their own solutions which could weaken our competitive position, reduce our revenue, or increase our costs.

Our success depends largely on the proprietary nature of our technologies. We currently rely primarily on copyright, trademark, and trade secret protection. Whether or not patents are granted to us, litigation may be necessary to enforce our intellectual property rights or to determine the validity and scope of the proprietary rights of others. As a result of any such litigation, we could lose our proprietary rights and incur substantial unexpected operating costs. Litigation could also divert our resources, including our managerial and engineering resources. In the future, we intend to rely primarily on a combination of patents, copyrights, trademarks, and trade secrets to protect our proprietary rights and prevent competitors from using our proprietary technologies in their products. These laws and procedures provide only limited protection. Our pending patent applications may not result in issued patents, and even if issued, they may not be sufficiently broad to protect our proprietary technologies. Also, patent protection in foreign countries may be limited or unavailable where we need such protection.

Competition in the market for solutions that address yield improvement and integration between IC design and manufacturing may intensify in the future, which could slow our ability to grow or execute our strategy.

Competition in our market may intensify in the future, which could slow our ability to grow or execute our strategy and increase pricing pressure. Our current and potential customers may choose to develop their own solutions internally, particularly if we are slow in deploying our solutions. Many of these companies have the financial and technical capability to develop their own solutions. Also, competitors could establish non-domestic

operations with a lower cost structure than our engineering organization, which, unless we also establish lower cost non-domestic operations, would give any such competitor's products a competitive advantage over our solutions. There may be other providers of commercial solutions for systematic IC yield and performance enhancement of which we are not aware. We currently face indirect competition from the internal groups at IC companies and some direct competition from providers of yield management or prediction software such as Ponte Solutions, Predictions Software, Synticity Inc., Spotfire Inc., Synopsys Inc. (through their acquisition of HPL Technologies), and Yield Dynamics, Inc., and process control software, such as Triant Holdings Inc., Straatum Processware Ltd., and MKS Instruments Inc. Some providers of yield management software or inspection equipment may seek to broaden their product offerings and compete with us. For example, KLA-Tencor has announced adding the use of test structures to one of their inspection product lines. In addition, we believe that the demand for solutions that address the need for better integration between the silicon design and manufacturing processes may encourage direct competitors to enter into our market. For example, large integrated organizations, such as IDMs, electronic design automation software providers, IC design service companies or semiconductor equipment vendors, may decide to spin-off a business unit that competes with us. Other potential competitors include fabrication facilities that may decide to offer solutions competitive with ours as part of their value proposition to their customers. In addition, Synopsys, Inc. now appears to offer directly competing DFM capability, while other EDA suppliers provide alternative DFM solutions that may compete for the same budgetary funds. If these potential competitors change the pricing environment or are able to attract industry partners or customers faster than we can, we may not be able to grow and execute our strategy as quickly or at all. In addition, customer preferences may shift away from our solutions as a result of the increase in competition.

We face operational and financial risks associated with international operations.

We derive a majority of our revenue from international sales, principally from customers based in Asia. Revenue generated from customers in Asia accounted for 50% of total revenue in the year ended December 31, 2006. During the year ended December 31, 2005 revenue generated from customers in Asia was 55% of total revenue. We expect that a significant portion of our total future revenue will continue to be derived from companies based in Asia. In addition, we have expanded our non-U.S. operations recently and plan to continue such expansion by establishing overseas subsidiaries, offices, or contractor relationships in locations, and when deemed appropriate by our management. The success of our business is subject to risks inherent in doing business internationally, including third-party vendors that provide certain software quality assurance and other services that have operations in the Middle East. These risks include:

- some of our key engineers and other personnel who are foreign nationals may have difficulty gaining access to the United States and other countries in which our customers or our offices may be located and it may be difficult for us to recruit and retain qualified technical and managerial employees in foreign offices;
- greater difficulty in collecting account receivables resulting in longer collection periods;
- language and other cultural differences may inhibit our sales and marketing efforts and create internal communication problems among our U.S. and foreign research and development teams, increasing the difficulty of managing multiple, remote locations performing various development, quality assurance, and yield ramp analysis projects;
- compliance with, and unexpected changes in, a wide variety of foreign laws and regulatory environments with which we are not familiar, including, among other issues, with respect to protection of our intellectual property, and a wide variety of trade and export controls under domestic, foreign, and international law;
- currency risk due to the fact that expenses for our international offices are denominated in the local currency, including the Euro, while virtually all of our revenue is denominated in U.S. dollars;
- quarantine, private travel limitation, or business disruption in regions affecting our operations, stemming from actual, imminent or perceived outbreak of human pandemic or contagious disease;
- in the event a larger portion of our revenue becomes denominated in foreign currencies, we would be subject to a potentially significant exchange rate risk; and

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- economic or political instability, including but not limited to armed conflict, terrorism, and the resulting disruption to economic activity and business operations.

In Japan, in particular, we face the following additional risks:

- any recurrence of an overall downturn in Asian economies could limit our ability to retain existing customers and attract new ones in Asia; and
- if the U.S. dollar increases in value relative to the Japanese Yen, the cost of our solutions will be more expensive to existing and potential Japanese customers and therefore less competitive.

Our earnings per share and other key operating results may be unusually high in a given quarter, thereby raising investors' expectations, and then unusually low in the next quarter, thereby disappointing investors, which could cause our stock price to drop.

Historically, our quarterly operating results have fluctuated. Our future quarterly operating results will likely fluctuate from time to time and may not meet the expectations of securities analysts and investors in some future period. The price of our common stock could decline due to such fluctuations. The following factors may cause significant fluctuations in our future quarterly operating results:

- the size and timing of sales volumes achieved by our customers' products;
- the loss of any of our large customers or an adverse change in any of our large customers' businesses;
- the size of improvements in our customers' yield and the timing of agreement as to those improvements;
- our long and variable sales cycle;
- changes in the mix of our revenue;
- changes in the level of our operating expenses needed to support our projected growth; and
- delays in completing solution implementations for our customers.

Our gain share revenue is dependent on factors outside of our control, including the volume of integrated circuits, or ICs, our customers are able to sell to their customers.

Our gain share revenue for a particular product is largely determined by the volume of that product that our customer is able to sell to its customers, which is outside of our control. We have limited ability to predict the success or failure of our customers' IC products. Further, our customers may implement changes to their manufacturing processes during the gain share period, which could negatively affect yield results, which is beyond our control. We may commit a significant amount of time and resources to a customer who is ultimately unable to sell as many units as we had anticipated when contracting with them or who makes unplanned changes to their processes. Since we currently work on a small number of large projects, any product that does not achieve commercial viability or a significant increase in yield could significantly reduce our revenue and results of operations below expectations. In addition, if we work with two directly competitive products, volume in one may offset volume, and any of our related gain share, in the other product. Further, decreased demand for semiconductor products decreases the volume of products our customers are able to sell, which may adversely affect our gain share revenue.

Gain share measurement requires data collection and is subject to customer agreement, which can result in uncertainty and cause quarterly results to fluctuate.

We can only recognize gain share revenue once we have reached agreement with our customers on their level of yield performance improvements. Because measuring the amount of yield improvement is inherently complicated and dependent on our customers' internal information systems, there may be uncertainty as to some components of measurement. This could result in our recognition of less revenue than expected. In addition, any delay in measuring gain share could cause all of the associated revenue to be delayed until the next quarter. Since we

currently have only a few large customers and we are relying on gain share as a significant component of our total revenue, any delay could significantly harm our quarterly results.

Changes in the structure of our customer contracts, including the mix between fixed and variable revenue and the mix of elements, can adversely affect the size and timing of our total revenue.

Our long-term success is largely dependent upon our ability to structure our future customer contracts to include a larger gain share component relative to the fixed fee component. If we are successful in increasing the gain share component of our customer contracts, we will experience an adverse impact on our operating results in the short term as we reduce the fixed fee component, which we typically recognize earlier than gain share fees. Due to acquisitions and expanded business strategies, the mix of elements in some of our contracts has changed recently and the relative importance of the software component in some of our contracts has increased. We have experienced, and may in the future experience, delays in the expected recognition of revenue associated with generally accepted accounting principles regarding the timing of revenue recognition in multi-element software arrangements, including the effect of acceptance criteria as a result of the change in our contracts. If we fail to meet contractual acceptance criteria on time or at all, the total revenue we receive under a contract could be delayed or decline. In addition, by increasing the gain share or the software component, we may increase the variability or timing of recognition of our revenue, and therefore increase the risk that our total future revenue will be lower than expected and fluctuate significantly from period to period.

It typically takes us a long time to sell our unique solutions to new customers, which can result in uncertainty and delays in generating additional revenue.

Because our gain share business model is unique and our Design-to-Silicon-Yield solutions are unfamiliar, our sales cycle is lengthy and requires a significant amount of our senior management's time and effort. Furthermore, we need to target those individuals within a customer's organization who have overall responsibility for the profitability of an IC. These individuals tend to be senior management or executive officers. We may face difficulty identifying and establishing contact with such individuals. Even after initial acceptance, due to the complexity of structuring the gain share component, the negotiation and documentation processes can be lengthy. It can take nine months or more to reach a signed contract with a customer. Unexpected delays in our sales cycle could cause our revenue to fall short of expectations.

We have a history of losses, we may incur losses in the future and we may be unable to maintain profitability.

While we have been profitable in some prior quarters and certain fiscal years, we have experienced losses in the past and in the fiscal year ended December 31, 2006. We may not achieve and thereafter maintain profitability if our revenue increases more slowly than we expect or not at all. In addition, virtually all of our operating expenses are fixed in the short term, so any shortfall in anticipated revenue in a given period could significantly reduce our operating results below expectations. Our accumulated deficit was \$13.5 million as of September 30, 2006. We expect to continue to incur significant expenses in connection with:

- funding for research and development;
- expansion of our solution implementation teams;
- expansion of our sales and marketing efforts; and
- additional non-cash charges relating to amortization of intangibles and stock-based compensation.

As a result, we will need to significantly increase revenue to maintain profitability on a quarterly or annual basis. Any of these factors could cause our stock price to decline.

We may experience significant fluctuations in operating results due to the cyclical nature of the semiconductor industry.

Our revenue is highly dependent upon the overall condition of the semiconductor industry, especially in light of our gain share revenue component. The semiconductor industry is highly cyclical and subject to rapid technological change and has been subject to significant economic downturns at various times, characterized by diminished product demand, accelerated erosion of average selling prices, and production overcapacity. The semiconductor industry also periodically experiences increased demand and production capacity constraints. As a result, we may experience significant fluctuations in operating results due to general semiconductor industry conditions and overall economic conditions.

We must continually attract and retain highly talented executives, engineers, and research and development personnel or we will be unable to expand our business as planned.

We will need to continue to hire highly talented executives, engineers, and research and development personnel to support our planned growth. We have experienced, and we expect to continue to experience, delays and limitations in hiring and retaining highly skilled individuals with appropriate qualifications. We intend to continue to hire foreign nationals, particularly as we expand our operations internationally. We have had, and expect to continue to have, difficulty in obtaining visas permitting entry into the United States for several of our key personnel, which disrupts our ability to strategically locate our personnel. If we lose the services of any of our key executives or a significant number of our engineers, it could disrupt our ability to implement our business strategy. Competition for executives and qualified engineers can be intense, especially in Silicon Valley where we are principally based.

If our products, technologies, services, and integrated solutions fail to keep pace with the rapid technological changes in the semiconductor industry, we could lose customers and revenue.

We must continually devote significant engineering resources to enable us to keep up with the rapidly evolving technologies and equipment used in the semiconductor design and manufacturing processes. These innovations are inherently complex and require long development cycles. Not only do we need the technical expertise to implement the changes necessary to keep our technologies current, we also rely heavily on the judgment of our advisors and management to anticipate future market trends. Our customers expect us to stay ahead of the technology curve and expect that our products, technologies, services, and integrated solutions will support any new design or manufacturing processes or materials as soon as they are deployed. If we are not able to timely predict industry changes, or if we are unable to modify our products, technologies, services, and integrated solutions on a timely basis, our existing solutions will be rendered obsolete and we may lose customers. If we do not keep pace with technology, our existing and potential customers may choose to develop their own solutions internally as an alternative to ours and we could lose market share, which could adversely affect our operating results.

We intend to pursue additional strategic relationships, which are necessary to maximize our growth, but could substantially divert management attention and resources.

In order to establish and maintain strategic relationships with industry leaders at each stage of the IC design and manufacturing processes, we may need to expend significant resources and will need to commit a significant amount of management's time and attention, with no guarantee of success. If we are unable to enter into strategic relationships with these companies, we will not be as effective at modeling existing technologies or at keeping ahead of the technology curve as new technologies are introduced. In the past, the absence of an established working relationship with key companies in the industry has meant that we have had to exclude the effect of their component parts from our modeling analysis, which reduces the overall effectiveness of our analysis and limits our ability to improve yield. We may be unable to establish key industry strategic relationships if any of the following occur:

- potential industry partners become concerned about our ability to protect their intellectual property;
- potential industry partners develop their own solutions to address the need for yield improvement;

- our potential competitors establish relationships with industry partners with which we seek to establish a relationship; or
- potential industry partners attempt to restrict our ability to enter into relationships with their competitors.

Our solution implementations may take longer than we anticipate, which could cause us to lose customers and may result in adjustments to our operating results.

Our solution implementations require a team of engineers to collaborate with our customers to address complex yield loss issues by using our software and other technologies. We must estimate the amount of time needed to complete an existing solution implementation in order to estimate when the engineers will be able to commence a new solution implementation. In addition, our accounting for solution implementation contracts, which generate fixed fees, sometimes require adjustments to profit and loss based on revised estimates during the performance of the contract. These adjustments may have a material effect on our results of operations in the period in which they are made. The estimates giving rise to these risks, which are inherent in fixed-price contracts, include the forecasting of costs and schedules, and contract revenues related to contract performance.

Key executives, including our chief executive officer and our chief strategy officer, are critical to our business and we cannot guarantee that they will remain with us indefinitely.

Our future success will depend to a significant extent on the continued services of our key executives, including John Kibarian, our President and Chief Executive Officer, and David Joseph, our Chief Strategy Officer. If we lose the services of any of our key executives, it could slow execution of our business plan, hinder our product development processes and impair our sales efforts. Searching for replacements could divert other senior management's time and increase our operating expenses. In addition, our industry partners and customers could become concerned about our future operations, which could injure our reputation. We do not have long-term employment agreements with our executives and we do not maintain any key person life insurance policies on their lives.

Inadvertent disclosure of our customers' confidential information could result in costly litigation and cause us to lose existing and potential customers.

Our customers consider their product yield information and other confidential information, which we must gather in the course of our engagement with the customer, to be extremely competitively sensitive. If we inadvertently disclosed or were required to disclose this information, we would likely lose existing and potential customers and could be subject to costly litigation. In addition, to avoid potential disclosure of confidential information to competitors, some of our customers may, in the future, ask us not to work with key competitive products.

Our technologies could infringe the intellectual property rights of others causing costly litigation and the loss of significant rights.

Significant litigation regarding intellectual property rights exists in the semiconductor industry. It is possible that a third party may claim that our technologies infringe their intellectual property rights or misappropriate their trade secrets. Any claim, even if without merit, could be time consuming to defend, result in costly litigation, or require us to enter into royalty or licensing agreements, which may not be available to us on acceptable terms, or at all. A successful claim of infringement against us in connection with the use of our technologies could adversely affect our business.

Defects in our proprietary technologies, hardware and software tools, and the cost of support to remedy any such defects could decrease our revenue and our competitive market share.

If the software, hardware, or proprietary technologies we provide to a customer contain defects that increase our customer's cost of goods sold and time to market, these defects could significantly decrease the market acceptance of our solutions. Further, the cost of support resources required to remedy any defects in our technologies, hardware, or software tools could exceed our expectations. Any actual or perceived defects with

our software, hardware, or proprietary technologies may also hinder our ability to attract or retain industry partners or customers, leading to a decrease in our revenue. These defects are frequently found during the period following introduction of new software, hardware, or proprietary technologies or enhancements to existing software, hardware, or proprietary technologies. Our software, hardware, and proprietary technologies may contain errors not discovered until after customer implementation of the silicon design and manufacturing process recommended by us. If our software, hardware, or proprietary technologies contain errors or defects, it could require us to expend significant resources to alleviate these problems, which could reduce margins and result in the diversion of technical and other resources from our other development efforts.

We may have difficulty maintaining the effectiveness of our internal control over financial reporting.

Pursuant to Section 404 of the Sarbanes-Oxley Act, we are required to furnish a report on our management's assessment of the design and effectiveness of our system of internal control over financial reporting as part of our Annual Report on Form 10-K. Our auditors are also required to attest to, and report on, our management's assessment. In order to issue their report, our management is required to document both the design of our system of internal controls and our testing processes that support our management's evaluation and conclusion. While our management and independent auditors have been able to conclude that our internal control over financial reporting has been effective in each of the last two years, during the course of future testing, we may identify deficiencies, including those arising from turnover of qualified personnel or arising as a result of acquisitions, which we may not be able to remediate in time to meet the continuing reporting deadlines imposed by Section 404 and the costs of which may harm our results of operations. In addition, if we fail to maintain the adequacy of our internal controls, as such standards are modified, supplemented or amended from time to time, we may not be able to ensure that our management can conclude on an ongoing basis that we have effective internal controls. We also may not be able to retain independent auditors with sufficient resources to attest to and report on our internal controls in a timely manner. Moreover, our auditors may not agree with our management's future assessments and may deem our controls as ineffective if we are unable to remediate on a timely basis. If we are unable to assert as of December 31, 2006 and beyond, that we maintain effective internal controls, our investors could lose confidence in the accuracy and completeness of our financial reports that in turn could cause our stock price to decline.

We may not be able to expand our proprietary technologies if we do not consummate potential acquisitions or investments or successfully integrate them with our business.

To expand our proprietary technologies, we may acquire or make investments in complementary businesses, technologies, or products if appropriate opportunities arise. We may be unable to identify suitable acquisition or investment candidates at reasonable prices or on reasonable terms, or consummate future acquisitions or investments, each of which could slow our growth strategy. We may have difficulty integrating the acquired products, personnel or technologies of any acquisitions we might make. These difficulties could disrupt our ongoing business, distract our management and employees and increase our expenses.

We may not be able to raise necessary funds to support our growth or execute our strategy.

We currently anticipate that our available cash resources will be sufficient to meet our presently anticipated working capital and capital expenditure requirements for at least the next 12 months. However, unanticipated efforts to support more rapid expansion, develop or enhance Design-to-Silicon-Yield solutions, respond to competitive pressures or acquire complementary businesses or technologies could impact our future capital requirements and the adequacy of our available funds. In such event, we may need to raise additional funds through public or private financings, strategic relationships or other arrangements. We may not be able to raise any necessary funds on terms favorable to us, or at all.

Recent acquisitions may adversely affect our business by diverting management's attention, increasing our expenses or by being more difficult to integrate than expected.

On October 31, 2006, we completed our acquisition of Si Automation S.A. Our success in realizing the strategic benefits and growth opportunities to be gained from incorporating the operations of Si Automation into PDF and the timing of this realization depend upon our successful integration of Si Automation. The integration of

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Si Automation is a complex, costly and time-consuming process. The difficulties of combining our operations associated with this acquisition include:

- consolidating research and development operations;
- retaining key employees;
- incorporating acquired products and business technology into our existing product lines;
- coordinating effective sales and marketing functions;
- preserving research and development, marketing, customer and other important relationships; and
- minimizing the diversion of management's attention from ongoing business concerns.

USE OF PROCEEDS

The proceeds from the sale of the common stock offered by this prospectus are solely for the account of the selling stockholders. We will not receive any proceeds from the sale of these shares of common stock.

ISSUANCE OF COMMON STOCK TO SELLING STOCKHOLDERS

On October 25, 2006, PDF entered into a definitive agreement (the "Purchase Agreement") to acquire Si Automation S.A. (SIA), a privately held Fault Detection and Classification (FDC) software and services provider, based in Montpellier, France. The acquisition closed on October 31, 2006.

Under terms of the Purchase Agreement, the Registrant acquired SIA for approximately \$25.5 million in cash and 699,298 shares of PDF Solutions common stock (the "Shares") valued at \$9.4 million, and transaction costs of \$1.7 million, resulting in aggregate consideration of approximately \$36.6 million. This prospectus covers the resale of the Shares.

PLAN OF DISTRIBUTION

We have filed with the Securities and Exchange Commission, or SEC, a registration statement on Form S-3, of which this prospectus forms a part, in connection with the future resale of these shares. With respect to the shares to be issued to the selling stockholders, we have agreed to keep the registration statement effective until April 30, 2010, or such earlier time as these shares have been sold by the selling stockholders.

The selling stockholders may sell the shares of common stock from time to time. When we use the term “selling stockholders” in this prospectus, it includes donees, distributees, pledgees and other transferees who are selling shares received after the date of this prospectus from a selling stockholder whose name appears in “Selling Stockholders”. If we are notified by a selling stockholder that a donee, distributee, pledgee or other transferee intends to sell more than 500 shares, we will file a supplement to the prospectus if required by law. The selling stockholders will act independently of us in making decisions regarding the timing, manner and size of each sale. The selling stockholders may make these sales on the Nasdaq National Market or otherwise, at prices and terms that are then-prevailing or at prices related to the then-current market price, at fixed prices or in privately negotiated transactions. The selling stockholders may use one or more of the following methods to sell the shares of common stock:

- a block trade in which a selling stockholder’s broker or dealer will attempt to sell the shares as agent, but may position and resell all or a portion of the block as a principal to facilitate the transaction;
- a broker or dealer may purchase the common stock as a principal and then resell the common stock for its own account pursuant to this prospectus;
- an exchange or over-the-counter distribution in accordance with the rules of the applicable exchange or Nasdaq; and
- ordinary brokerage transactions and transactions in which the broker solicits purchasers.

The selling stockholders may enter into hedging transactions with broker-dealers in connection with distributions of the shares or otherwise. In these transactions, broker-dealers may engage in short sales of the shares in the course of hedging the positions they assume with the selling stockholders. The selling stockholders also may sell shares short and redeliver the shares to close out short positions. The selling stockholders may enter into option or other transactions with broker-dealers that require the delivery to the broker-dealer of the shares. The broker-dealer may then resell or otherwise transfer the shares under this prospectus. The selling stockholders also may loan or pledge the shares to a broker-dealer. The broker-dealer may sell the loaned shares, or upon a default the broker-dealer may sell the pledged shares under this prospectus.

In effecting sales, broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in the resales. To the extent required, this prospectus will be amended and supplemented from time to time to describe a specific plan of distribution.

Broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from selling stockholders. Broker-dealers or agents may also receive compensation from the purchasers of the shares for whom they act as agents or to whom they sell as principal, or both. Compensation as to a particular broker-dealer might be in excess of customary commissions and will be in amounts to be negotiated in connection with the sale. Broker-dealers or agents and any other participating broker-dealers or the selling stockholders may be deemed to be “underwriters” within the meaning of section 2(a)(11) of the Securities Act in connection with sales of the shares. Accordingly, any such commission, discount or concession received by them and any profit on the resale of the shares purchased by them may be deemed to be underwriting discounts or concessions under the Securities Act. Because selling stockholders may be deemed “underwriters” within the meaning of section 2(a)(11) of the Securities Act, the selling stockholders will be subject to the prospectus delivery requirements of the Securities Act.

Any shares covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus.

The shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states the shares may not be sold unless they have been registered or qualified

for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We will bear all costs, expenses and fees in connection with the registration of the shares. The selling stockholders will bear all commissions and discounts, if any, attributable to the sale of the shares. The selling stockholders may agree to indemnify any broker-dealer or agent that participates in transactions involving sales of the shares against certain liabilities, including liabilities arising under the Securities Act. We have agreed to indemnify the selling stockholders against certain liabilities in connection with their offering of the shares, including liabilities arising under the Securities Act.

SELLING STOCKHOLDERS

The following table sets forth certain information as of March 19, 2007, with respect to the selling stockholders. The following table assumes that the selling stockholders sell all of the shares offered by this prospectus. We are unable to determine the exact number of shares, if any, that actually will be sold.

The number and percentage of shares beneficially owned is based on shares outstanding at March 19, 2007, determined in accordance with Rule 13d-3 of the Exchange Act and assumes that all shares issuable upon the achievement of certain milestones described in the Merger Agreement are issued. The information is not necessarily indicative of beneficial ownership for any other purpose. Under Rule 13d-3, beneficial ownership includes any shares as to which an individual has sole or shared voting power or investment power, and also includes shares which an individual has the right to acquire within 60 days of March 19, 2007 through the exercise of any stock option or other right. Unless otherwise indicated in the footnotes, each person has sole voting and investment power (or shares such powers with his or her spouse) with respect to the shares shown as beneficially owned.

No selling stockholder has had any material relationship with us or any of our predecessors or affiliates within the last three years.

| Selling Stockholder | Shares Beneficially Owned Prior to the Offering(1) | | Shares Offered by this Prospectus | Shares Beneficially Owned After the Offering | |
|---|--|---------|-----------------------------------|--|---------|
| | Number | Percent | | Number | Percent |
| Abel Mikati | 52,579 | * | 52,579 | 0 | * |
| Adrien Raymond | 1,073 | * | 1,073 | 0 | * |
| André Moustiés | 89 | * | 89 | 0 | * |
| Banexi Ventures 2(2) | 99,607 | * | 99,607 | 0 | * |
| Béatrice Kelly | 18 | * | 18 | 0 | * |
| Benoit Mousties | 1,073 | * | 1,073 | 0 | * |
| Bertrand Reversat | 179 | * | 179 | 0 | * |
| Blaise Mega | 716 | * | 716 | 0 | * |
| Camille Raymond | 1,073 | * | 1,073 | 0 | * |
| Caroline Mikati | 1,609 | * | 1,609 | 0 | * |
| Celiné Romano-Dourlent | 2,953 | * | 2,953 | 0 | * |
| Christine Fourcade-Raymond | 1,629 | * | 1,629 | 0 | * |
| Christophe Fraysse | 716 | * | 716 | 0 | * |
| Credit Lyonnais Ventures Capital(3) | 132,482 | * | 132,482 | 0 | * |
| Delphine Michon Docteur Sylvain Massuel | 89 | * | 89 | 0 | * |
| Didier Cuvillez | 1,700 | * | 1,700 | 0 | * |
| Didier Vieux | 3,848 | * | 3,848 | 0 | * |
| Eric Vemede | 36 | * | 36 | 0 | * |
| Fabien Lupfer | 18 | * | 18 | 0 | * |
| Fabrice Bellamy | 716 | * | 716 | 0 | * |

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| Selling Stockholder | Shares Beneficially Owned Prior to the Offering(1) | | Shares Offered by this Prospectus | Shares Beneficially Owned After the Offering | |
|---------------------------------------|--|---------|-----------------------------------|--|---------|
| | Number | Percent | | Number | Percent |
| Fabrice Liabeuf | 36 | * | 36 | 0 | * |
| FCPI SOGE INNOVATION 3 / SGAM(4) | 78,249 | * | 78,249 | 0 | * |
| FCPI SOGE INNOVATION 5 / SGAM(4) | 30,372 | * | 30,372 | 0 | * |
| FCPI SOGE INNOVATION 6 / SGAM(4) | 23,861 | * | 23,861 | 0 | * |
| Florent Courren | 36 | * | 36 | 0 | * |
| Francis Romano | 3,668 | * | 3,668 | 0 | * |
| Francois Jean Fourcade | 89 | * | 89 | 0 | * |
| Frédéric Lafaye De Micheaux | 5,369 | * | 5,369 | 0 | * |
| Frédéric Martin | 89 | * | 89 | 0 | * |
| Frédéric Rinckwald | 36 | * | 36 | 0 | * |
| Gilles Huron | 716 | * | 716 | 0 | * |
| Hubert Baldino | 36 | * | 36 | 0 | * |
| Iian Murray | 358 | * | 358 | 0 | * |
| Jean Benoit Hugues | 12,527 | * | 12,527 | 0 | * |
| Luc Monneret | 36 | * | 36 | 0 | * |
| Luong Ngo | 36 | * | 36 | 0 | * |
| Mélanie Debasç | 36 | * | 36 | 0 | * |
| Myriam Bergogne | 36 | * | 36 | 0 | * |
| Nicolas Blaszczyk | 89 | * | 89 | 0 | * |
| Noe Mikati | 1,073 | * | 1,073 | 0 | * |
| Olivier Rudelle | 36 | * | 36 | 0 | * |
| Pascale Creissant-Moustiés | 1,609 | * | 1,609 | 0 | * |
| Patrick Burigo | 18 | * | 18 | 0 | * |
| Paul Mousties | 1,073 | * | 1,073 | 0 | * |
| Prisca Ravelojoana | 9 | * | 9 | 0 | * |
| Raphael Mikati | 1,073 | * | 1,073 | 0 | * |
| Richard Moustiés | 36,480 | * | 36,480 | 0 | * |
| Sandrine Benhassan | 18 | * | 18 | 0 | * |
| Société Civile Mikati(5) | 24,137 | * | 24,137 | 0 | * |
| Société Civile Moustiés Invest(6) | 40,236 | * | 40,236 | 0 | * |
| Société Civile Tr. Investissements(7) | 19,040 | * | 19,040 | 0 | * |
| Soridec S.A.(8) | 58,962 | * | 58,962 | 0 | * |
| Thierry Raymond | 57,656 | * | 57,656 | 0 | * |

* Less than 1%

- (1) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes sole or shared voting or investment power with respect to securities. Shares of common stock subject to options, warrants or shares of convertible preferred stock currently exercisable or convertible, or exercisable or convertible within 60 days of March 19, 2007 are deemed outstanding for purposes of computing the percentage ownership of the person holding such option or warrant but are not outstanding for purposes of computing the percentage of any other person. Except as indicated in the footnotes to this table and pursuant to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of our common stock beneficially owned.

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- (2) Michel Dahan, Sophie Pierrin Lepinard and Philippe Méré have the power to direct the voting and disposition of securities held by the selling stockholder.
- (3) Jean Prevost and Jean-Philippe Doin have the power to direct the voting and disposition of securities held by the selling stockholder.
- (4) Philippe Brosse has the power to direct the voting and disposition of securities held by the selling stockholder.
- (5) Abel Mikati has the power to direct the voting and disposition of securities held by the selling stockholder.
- (6) Richard Moustiés has the power to direct the voting and disposition of securities held by the selling stockholder.
- (7) Thierry Raymond has the power to direct the voting and disposition of securities held by the selling stockholder.
- (8) Anne-Yvonne Le Dain and Bernard Olivier have the power to direct the voting and disposition of securities held by the selling stockholder.

LEGAL MATTERS

Orrick, Herrington & Sutcliffe LLP, counsel to PDF, has passed upon the validity of the common stock offered in this offering.

EXPERTS

The financial statements, the related financial statement schedule, and management's report on the effectiveness of internal control over financial reporting incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K for the year ended December 31, 2006 have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference, and have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

The consolidated financial statements of Si Automation S.A. as of September 30, 2006 and December 31, 2005, for the nine month period ended September 30, 2006 and the year ended December 31, 2005 and incorporated in this prospectus by reference to our Current Report on Form 8-K/A filed with the SEC on January 16, 2007, have been so incorporated in reliance on the report of KPMG S.A., given on the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed a registration statement on Form S-3 with the SEC under the Securities Act with respect to the shares of common stock offered in this offering. This prospectus, which is a part of the registration statement, does not contain all of the information set forth in the registration statement, or the exhibits which are part of the registration statement, parts of which are omitted as permitted by the rules and regulations of the SEC. For further information about us and the shares of our common stock to be sold in this offering, please refer to the registration statement and the exhibits which are part of the registration statement. Statements contained in this prospectus as to the contents of any contract or any other document are not necessarily complete. Each statement in this prospectus regarding the contents of the referenced contract or other document is qualified in all respects by our reference to the copy filed with the registration statement.

For further information about us and our common stock, we refer you to our registration statement and its attached exhibits, copies of which may be inspected without charge at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a duplicating fee. Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. The SEC maintains a World Wide Web site on the Internet at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding registrants that file electronically with the Commission.

The SEC allows us to "incorporate by reference" certain of our publicly-filed documents into this prospectus, which means that information included in those documents is considered part of this prospectus. Information that we file with the SEC after the date of the initial filing of the registration statement will automatically update and

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supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of this prospectus and prior to the closing date of the offering.

The following documents filed with the SEC are incorporated by reference in this prospectus:

1. Our Current Reports on Form 8-K filed September 19, 2006 and November 3, 2006, and our Current Report on Form 8-K/A filed January 16, 2007.
2. Our Annual Report on Form 10-K for the year ended December 31, 2006.
3. Our definitive Proxy Statement dated April 21, 2006, filed in connection with our May 24, 2006 Annual Meeting of Stockholders.
4. Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2006, June 30, 2006 and September 30, 2006, as amended.

We incorporate by reference any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of the filing of the registration statement of which this prospectus is a part and prior to the effective date of the registration statement (other than Current Reports on Form 8-K containing only disclosure furnished under Item 2.02 or 7.01 of Form 8-K and exhibits relating to such disclosures, unless otherwise specifically stated in such Current Report on Form 8-K). We also incorporate by reference any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of this prospectus and the date all of the securities offered hereby are sold (other than Current Reports on Form 8-K containing only disclosure furnished under items 2.02 or 7.01 of Form 8-K and exhibits relating to such disclosures, unless otherwise specifically stated in such Current Report on Form 8-K).

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, other than exhibits to those documents. You should direct any requests for documents to P. Steven Melman, PDF Solutions, Inc., 333 West San Carlos Street, Suite 700, San Jose, California 95110, (408) 280-7900.

