
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2002

or

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

For the transition period from to

000-31311

(Commission file number)

PDF SOLUTIONS, INC.

(Exact name of Registrant as specified in its charter)

Delaware

*(State or other jurisdiction of
incorporation or organization)*

333 West San Carlos Street, Suite 700

San Jose, California

(Address of Registrant's principal executive offices)

25-1701361

*(I.R.S. Employer
Identification No.)*

95110

(Zip Code)

(408) 280-7900

(Registrant's telephone number, including area code)

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

None

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

Common Stock, \$0.00015 par value

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2).

Yes No

The aggregate market value of the voting stock held by non-affiliates of the Registrant was approximately \$88,532,652 as of the last business day of the Registrant's most recently completed second quarter, based upon the closing sale price on the Nasdaq National Market reported for such date. Shares of Common Stock held by each officer and director and by each person who owns 5% or more of the outstanding Common Stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

There were 23,125,736 shares of the Registrant's Common Stock issued and outstanding as of March 21, 2003.

DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates information by reference from the definitive proxy statement for the Annual Meeting of Stockholders to be held on May 16, 2003.

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PART I

Item 1. **Business.**

This report contains 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 “projected,” “expects,” “believes,” “intends” and “assumes” 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 Part II, Item 7., “Management’s Discussion & Analysis of Financial Conditions and Results of Operations — Certain Risks that May Affect Our Future Results.”

Overview

Our technologies and services enable semiconductor companies to improve 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, the rate at which yield improves and product profitability. Our solutions combine proprietary manufacturing process simulation software, yield and performance modeling software, test chips, a proprietary electrical wafer test system, yield and performance enhancement methodologies, and professional services. 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 improvement 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.

Industry Background

ICs are critical components used in an increasingly wide variety of applications, such as computer systems, Internet and communications infrastructure equipment, and consumer products. As IC performance has increased and size and cost have decreased, the use of ICs in these applications has grown significantly. A large part of this growth is expected to occur in deep submicron ICs having circuit component feature sizes, or geometries, that measure less than 0.18 microns, or millionths of a meter. ICs are manufactured onto silicon disks, commonly referred to as wafers. Rapid technological innovation has shortened product life cycles, which fuels the economic growth of the semiconductor industry.

Customers for electronic products continue to demand new applications with more power, reduced cost and smaller size. As a result, IC companies continue to adopt new designs, process technologies and materials. For example, silicon germanium processes are being integrated with standard logic processes to provide better performance for radio-frequency components in communication ICs.

In addition, the IC industry faces compression in product lifecycles. Previously, companies could afford to take months, or years in some cases, to integrate new designs with manufacturing processes. With historically longer product life cycles, IC companies ramped production slowly, produced at high volume once the product hit its prime, and slowly reduced production volume when the price and the demand started to decrease near the end of a product’s life cycle. More recently, demand has dramatically reduced the time that semiconductor companies have to successfully bring a product to market in high volumes. Companies now need to sell the most volume when a product is first introduced and has a performance and pricing advantage over its competition, or they will lose the market opportunity and the related revenue.

Increased IC complexity and compressed product lifecycles create significant challenges to achieving competitive initial yields and optimizing performance. Yield is the percentage of ICs produced that meet customers’ specifications, and initial yield is specifically the percentage of good ICs produced when volume production first commences. For example, it is not uncommon for an initial manufacturing run to yield only 20%, meaning 80% of those wafers were wasted. Yield improvement and performance optimization are critical

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drivers of IC companies' financial results because they typically lead to cost reduction and revenue generation concurrently, causing a leveraged effect on profitability. Historically, yield loss resulted primarily from contamination in the IC manufacturing process. The dominant factor of yield loss with deep submicron ICs has shifted from contamination to:

- systematic yield loss, or non-functioning ICs resulting from the lack of compatibility between the design and manufacturing processes; and
- performance yield loss, or functioning ICs that do not meet customer speed requirements.

Manufacturers have historically addressed systematic and performance yield loss reactively and almost exclusively by inefficient and time consuming trial-and-error adjustments to the manufacturing process during volume production.

Disaggregation of the semiconductor industry has further complicated IC companies' ability to maximize initial yields. Historically, leading semiconductor companies designed, manufactured and tested their ICs internally, thus retaining process-design integration know-how. Today, the industry is comprised of separate organizations, as well as separate companies, that specialize in a particular phase of designing and manufacturing ICs. This has fragmented the knowledge related to the integration of IC design and manufacturing and resulted in great difficulty in making designs compatible with a manufacturing process prior to volume production.

The combination of increasingly complex ICs and design and manufacturing processes, reduced time to produce new products in high volumes and the loss of information due to disaggregation has left a gap between the design of an IC and its manufacture. We call this gap the Design-to-Silicon-Yield™ gap. This gap creates a number of significant problems for semiconductor companies, including:

- *Slow Yield Ramp.* Increased process and design complexity extends the time needed to arrive at acceptable yields and increases the time it takes for a semiconductor company to begin producing at high volumes, directly and negatively impacting a company's potential market share and potential revenue.
- *Longer Time to Market and Increased Up-front Costs.* Yield problems in the initial manufacturing phase result in numerous design and process iterations that delay product introductions and appreciably increase up-front costs, such as non-recurring engineering, mask-set redesigns and excessive sample wafers.
- *High Cost of Goods Sold.* Processed wafer costs are typically the largest component of an IC company's cost of goods sold and, therefore, yield loss significantly increases costs.
- *Difficulties Producing High-Performance ICs.* High-performance ICs are particularly sensitive to the lack of compatibility between design and manufacturing. In addition, semiconductor companies typically experience a trade-off between yield and IC performance because it is generally more difficult to produce ICs with more stringent specifications. Semiconductor companies may target high-performance ICs because they typically have higher margins.

The PDF Solution

We provide silicon infrastructure technologies and services to integrate an IC design with its manufacturing processes, thereby bridging the Design-to-Silicon-Yield gap. Our solution combines proprietary manufacturing process simulation software, yield and performance modeling software, test chips, a proprietary electrical wafer test system, yield and performance enhancement methodologies and professional services to increase yield, accelerate yield ramp and improve IC performance. We create an analysis of yield loss mechanisms to identify, quantify and correct the issues that cause yield loss, often before an IC design is complete. 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, increase the rate at which that yield improves, and allow subsequent product designs to be added to manufacturing lines

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more quickly and easily. Because our Design-to-Silicon-Yield solutions quickly improve a semiconductor company's time to market and yield ramp — and ultimately product profitability — we tie our revenue to these improvements through a unique approach that we call gain share. Gain share is the percentage we receive of our customers' incremental cost savings or incremental revenue associated with improved yields and accelerated ramp, or it may be a specified fee based on production milestones achieved by our customers.

The key benefits of our solution to our customers are:

Faster Time to Market. Our Design-to-Silicon-Yield solutions are designed to accelerate our customers' time to market and increase product profitability. Our solutions, which predict and improve product yield even before IC product design is complete, change the traditional design-to-silicon sequence to primarily a concurrent process, and decrease our customers' time to market. Systematically incorporating knowledge of the integration of the design and manufacturing processes into software modules, enables faster introduction of additional products with high initial yields. Our solutions are designed to decrease design and process iterations, reduce our customers' up-front costs and accelerate time to market, and thus provide our customers with early-mover advantages such as increased market share and higher selling prices.

Faster Time to Volume. After achieving higher initial yields and faster time to market, our solutions are designed to enable our customers to isolate and eliminate remaining systematic yield issues to achieve cost efficient manufacturing volume. Once a manufacturing process has been modeled using our solutions, our customers are able to diagnose problems and simulate potential corrections more quickly than using traditional methods. In addition, if process changes are required, improvements can be verified more quickly using our technology than using traditional methods. Our Design-to-Silicon-Yield solutions enable our customers to quickly reach cost efficient volume, so that they are able to increase revenue, improve their competitive position, and capture higher market share.

Increased Manufacturing Efficiencies. After using our solutions for product introduction and yield ramp, our solutions are designed to allow our customers to achieve a higher final yield and therefore a lower cost of goods sold. In addition, our Design-to-Silicon-Yield solutions are designed to provide our customers with the ability to proactively monitor process health to avoid potential yield problems. By paying us gain share as our customers recognize cost savings from these manufacturing efficiencies, they also benefit from better matching their costs to their revenue.

Increased Semiconductor Performance. Our Design-to-Silicon-Yield solutions are designed to enable our customers to achieve over-all higher level semiconductor performance by modeling the factors that affect speed and simulating possible improvements. Typically, the changes necessary to achieve higher performance result in an overall reduction in yield. Because our solutions also model the factors that affect yield at the same time, our customers can often achieve both higher IC performance and higher yield, thereby generating higher margin revenues.

Our Strategy

Our objective is to provide the industry standard in silicon infrastructure technologies and services for integrating IC designs and manufacturing processes. Key elements of our strategy include:

Extend Our Technology Leadership Position. We intend to continue expanding our research and development efforts by leveraging our experienced engineering staff and codifying the knowledge that we acquire in our solution implementations. In addition, we intend to selectively acquire complementary businesses and technologies to increase the scope of our solutions. We will continue to make investments in the development of proprietary manufacturing process simulation software, yield and performance modeling software, other technologies, and yield and performance enhancement methodologies to accommodate our customers' increasingly complex semiconductor needs.

Leverage Our Gain Share Business Model. We intend to expand the gain share component of our customer contracts. We believe this approach helps us to form collaborative and longer-term relationships. Working closely with our customers on their core technologies with a common focus on their business results provides direct and real-time feedback, which we will continue to use to generate market-driven improvements

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that add value to our solutions. We also believe that gain share allows us to increase penetration of our customer accounts because adding new semiconductor products to existing lines is increasingly easy and economical for our customers once our Design-to-Silicon-Yield solutions are implemented. As our gain share customers succeed in improving their yield and performance while reducing costs, we believe that we will generate new customer accounts based on these successes.

Focus on IC Product Segments. We intend to focus our solution on IC product segments such as system-on-a-chip, communications networking, graphics and high-performance central processing units. We believe that these are high-volume, high-growth segments and are fueled by the growth of Internet and wireless infrastructure and consumer applications. As a result, we will expand our solution for technology drivers such as low-k dielectrics, copper, embedded DRAM and silicon germanium, which are all somewhat new and relatively complex manufacturing process technologies. We believe that these product segments are particularly attractive because they include complex IC design and manufacturing processes where processed silicon is costly and yield is critical.

Expand Strategic Relationships. We intend to continue to extend and enhance our relationships with companies at various stages of the design-to-silicon process, such as manufacturing equipment vendors, silicon intellectual property vendors, semiconductor foundries, and test and assembly equipment providers. We believe that strategic relationships with industry leaders will increase our insight into future industry needs, thus allowing us to further accelerate our learning and enhance the value of our solutions. We expect these relationships to also serve as sales channels for our Design-to-Silicon-Yield solutions and to increase industry awareness of our solutions.

Expand Worldwide Presence. We intend to establish engineering design and product development centers in key international locations around the world. To date, we have focused on regions specific to our design efforts — the United States, Japan and Europe. We intend to expand geographically to gain access to international engineering talent and to maintain proximity to our expanding customer base. In addition, we believe that these efforts will have collateral sales and marketing benefits as a result of local presence.

Technology

Our Design-to-Silicon-Yield solutions combine proprietary manufacturing process simulation, yield and performance modeling software, test chips, a proprietary electrical wafer test system, and yield and performance enhancement methodologies. To calculate the yield of an IC design, we have designed a system that uses these technologies to:

- identify yield-relevant layout pattern elements by using the knowledge base embedded in our technologies;
- categorize IC layout components into these elements;
- quantify the yield of each of the elements; and
- model the frequency of yield-relevant elements and their yield-loss probabilities.

We enhance our technologies through the codification of knowledge that we gain in our solution implementations.

Our software incorporates the following elements:

- modeling algorithms of the interaction between design layout and manufacturing processes, which creates layout pattern-dependent systematic yield models that encompass process technologies such as lithography, etch, interlayer dielectric chemical-mechanical polishing (ILD CMP), copper CMP and shallow trench isolation CMP (STI CMP);
- pattern recognition algorithms, which allow us to categorize the yield-relevant elements of a design as a function of their layout, including the effects of their proximity to other elements;

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- a hierarchical representation of the layout, which encompasses layout manufacturing process proximity effects and minimizes the time necessary for computation of systematic yield prediction;
- algorithms that compute an overall yield impact matrix for design as a function of layout elements and manufacturing yield models; statistical simulation of circuit performance as a function of manufacturing process variations, including their impact on transistor performance; and
- statistical process and device simulation.

Our software that is used to predict yields of designs is also used to generate our proprietary Characterization Vehicle™ test chips. These Characterization Vehicle, or CV™, test chips are used to calibrate the yield and to provide manufacturers with prediction of product yields, often before the IC design is completed. Prediction generated by the CV test chips is the basis of the yield improvement methodologies for the manufacturing line. Information generated by our Universal CV™ test chips provides information for design-based improvements to IC designs.

Our methodologies are a series of guidelines that our implementation teams use to drive our customers' adoption of our software and CV or Universal CV test chips to quantify the yield impact of each module of the process and design block, simulate the impact of changes to the design and manufacturing process, and analyze the outcome of executing such changes.

Products and Services

Our Design-to-Silicon-Yield solutions consist of integration engineering services, proprietary software and other technologies. Our proprietary software and other technologies include proprietary manufacturing process simulation software, yield and performance modeling software, CV test chips and a proprietary electrical wafer test system.

We tailor our solution to our customers' specific business issues by offering one of the following Design-to-Silicon-Yield solutions:

- *Integration and Ramp*. This solution enables our customers to ramp the yield of new products when the manufacturing process or fabrication facility is still being completed or is new. Our solution is used to improve the process capability and manufacturability of designs targeted for that process.
- *Yield and Performance Ramp*. This solution enables our customers to ramp the yield and performance of new products when the manufacturing process is assumed to be mostly correct and complete. In this case, we focus mostly on design oriented issues.
- *Design-Based Yield Improvement™ (DBYI™)*. This solution enables our customers to optimize the manufacturability of their IC products by improving the compatibility of their designs with a third party's manufacturing process. In this case, we focus on design oriented issues.

Our Design-to-Silicon-Yield solutions can incorporate various software and other technologies, typically including the following:

- *Characterization Vehicle or Universal CV Test Chips and Software*. Our integration engineers develop a design of experiments, or DOE, to determine how IC design building blocks interact with the manufacturing process. Our CV software utilizes the DOE, as well as a library of these building blocks that we know have potential yield and performance impact, to generate Characterization Vehicle or Universal CV test chips. These CV test chips are run through the manufacturing process with intentional modifications to explore the effects of natural manufacturing process variations. Our CV analysis software is then used to analyze the electrical test results generated by the test chips to model the yield and performance effects of process variations on these design building blocks.
- *Yield Ramp Simulator™ (YRS™) Software*. Our YRS software analyzes an IC design to compute its systematic and contamination yield loss. YRS software allows design attribute extraction and feature-based yield modeling. YRS software takes as input a layout that is typically in industry standard format, proprietary yield models generated by running our CV test chips, and other test chip and in-line

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inspection data. YRS software is designed to estimate the yield loss due to optical proximity effects, etch micro loading, dishing in chemical-mechanical polishing and contamination, as well as a number of other basic process issues.

- *Circuit Surfer® Software.* Our Circuit Surfer software estimates the performance yield and manufacturability of small blocks in a design, such as analog subsystems or critical paths of digital blocks. Using our Circuit Surfer software, a design engineer is able to estimate how manufacturing process variations will impact circuit performance.
- *pdFab® Software.* Our pdFab software provides a framework for statistical manufacturing process and transistor simulation that enables our integration engineers to understand the effects of expected or measured manufacturing process variations on transistor performance. pdFab software is used to optimize the transistor architecture and associated manufacturing process, and is primarily targeted to provide higher IC performance, although yield improvements may also be generated.
- *Optissimo® Software.* Our Optissimo software is used to optimize the layout of a design to minimize the impact of wafer printing variations due to optical proximity effects. Optissimo software can be used for model based optical proximity correction technologies.
- *pdFasTest™ Electrical Test System.* Our pdFasTest electrical wafer test system enables defect characterization of deep-submicron manufacturing processes. This automated system provides parallel testing, thus minimizing the time required to perform millions of electrical measurements to test our CV test chips.

While the primary distribution method for our software and technologies is through our Design-to-Silicon-Yield solutions, we have in the past and may in the future separately license these and other technologies.

Customers

Our current customers are primarily integrated device manufacturers, or IDMs, but also include fabless semiconductor design companies and foundries. Our customers' targeted product segments vary significantly, including microprocessors, graphics, memory and communications. We believe that the adoption of our solutions by such companies validates the application of our Design-to-Silicon-Yield solutions to the broader market.

Toshiba Corporation, Matsushita Electric Industrial Co., and Sony Corporation represented 25%, 22% and 17%, respectively, of our total revenue for the year ended December 31, 2002. Toshiba and Matsushita represented 34% and 29%, respectively, of our total revenue for the year ended December 31, 2001. Toshiba, Sony, Conexant Systems, Inc. and Philips Semiconductors represented 32%, 27%, 15% and 10%, respectively, of our total revenue for the year ended December 31, 2000. No other customer accounted for 10% or more of our revenue in fiscal years 2002, 2001 and 2000.

Sales and Marketing

Our sales strategy is to pursue targeted accounts through a combination of our direct sales force and strategic alliances. For sales in the United States, we rely on our direct sales team, which primarily operates out of our San Jose, California headquarters. In Japan, we use our direct sales team as well as Innotech Corporation, a semiconductor sales and distribution company located in Japan. Innotech has been instrumental in providing introductions to executives with some of our targeted customers, which has allowed us to establish direct relationships with these executives. We expect to continue establishing strategic alliances with vendors in the electronic design automation software, capital equipment for IC production, silicon intellectual property and mask-making software segments to create and take advantage of co-marketing opportunities. We believe that these relationships will also serve as sales channels for our Design-to-Silicon-Yield solutions and to increase industry awareness of our solutions.

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During fiscal 2002, we derived 71% of our revenue from customers based in Japan as compared to 77% of our total revenue from customers in Japan in the year ended December 31, 2001 and 66% in the year ended December 31, 2000. Approximately 13% of our revenue was derived from customers located in the United States in the year ended December 31, 2002 as compared to 14% and 31%, respectively, in the years ended December 31, 2001 and December 31, 2000.

We strive to provide value in our initial engagement to solidify relationships at the executive level. Early in the solution implementation, our engineers seek to establish relationships in the organization and gain an understanding of our customers' business issues. Our direct sales and solution implementation teams combine their efforts to deepen our customer relationships by expanding our penetration across the customer's products, processes and technologies. This close working relationship with the customer has the added benefit of helping us identify new product areas and technologies in which we should next focus our research and development efforts.

Research and Development

Our research and development focuses on developing and introducing new proprietary technologies, software products and enhancements to our existing solutions. We use a rapid-prototyping paradigm in the context of the customer engagement to achieve these goals. In addition, we have a highly-qualified technical advisory board to help us develop and guide our strategic development roadmap.

We have made and expect to continue to make substantial investments in research and development. The complexity of our Design-to-Silicon-Yield technologies requires expertise in physical IC design and layout, transistor design and semiconductor physics, semiconductor process integration, numerical algorithms, statistics and software development. We believe that the our team of engineers will continue to advance our market and technological leadership. We conduct in-house training for our engineers in the technical areas, as well as focusing on ways to enhance client service skills. At any given time, about one quarter of our research and development engineers are operating in the field, partnered with solution implementation engineers in a deliberate strategy to provide direct feedback between technology development and client needs. Our research and development expenses were approximately \$15.2 million, \$12.2 million and \$6.4 million in 2002, 2001 and 2000, respectively.

Competition

The semiconductor industry is highly competitive and characterized by rapidly changing design and process technologies, evolving standards, short product life cycles and decreasing prices. While the market for silicon infrastructure is in its infancy, it is rapidly evolving and we expect competition to develop and continue to increase. We believe a solution to quickly close the Design-to-Silicon-Yield gap requires a unified system of yield models, design analysis software, and CV test chips. Currently, we are the only provider of commercial solutions for integrating design and manufacturing processes. We face indirect competition from internal groups at IC companies that use an incomplete set of components, that is not optimized to accelerate their process-design integration. 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. Other companies, such as HPL Technologies which, through its acquisition of Test Chip Technologies, has indicated its intent to further utilize test chips in its product offering, may in the future seek to enter the silicon infrastructure market. Companies such as these and those in electronic design automation could expand their offerings to include design and additional elements of the manufacturing processes and become direct competitors to us.

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We believe that the principal factors affecting competition in our market are:

- demonstrated results and reputation;
- strength of core technology;
- ability to implement solutions for new technology and product generations;
- time to market; and
- strategic relationships.

Although we believe that our solutions compete favorably with respect to these factors, our market is relatively new and is evolving rapidly. We may not be able to maintain our competitive position against current and potential competitors, especially those with significantly greater resources.

Intellectual Property

Our future success and competitive position are dependent upon our continued ability to develop and protect proprietary software and other technologies. We rely primarily on a combination of contractual provisions, confidentiality procedures, trade secrets, and patent, copyright and trademark laws to protect our proprietary systems, methods and technologies and prevent competitors from using our systems, methods and technologies in their products. As of December 31, 2002 we have been issued two U.S. patents and one German patent and have fourteen patent applications currently pending in the United States. We intend to prepare additional patent applications for submission to the United States Patent and Trademark Office. In the future, we may seek additional patent protection when we feel it is necessary.

We license our products and technologies pursuant to non-exclusive license agreements which impose restrictions on customer use. In addition, we seek to avoid disclosure of our trade secrets, including requiring employees, customers and others with access to our proprietary information to execute confidentiality agreements with us and restricting access to our source code. We also seek to protect our software, documentation and other written materials under trade secret and copyright laws. Despite this protection, unauthorized parties may copy aspects of our current or future software and other technologies or obtain and use information that we regard as proprietary.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights or positions. There are also numerous patents in the semiconductor industry and new patents are being issued at a rapid rate. It is also possible that third parties will claim that we have infringed their patents and current or future products. Any claims, with or without merit, could be time-consuming, result in costly litigation, cause delays, or require us to enter into royalty or licensing agreements, any of which could harm our business. Patent litigation in particular has complex technical issues and inherent uncertainties. In the event an infringement claim against us was successful and we could not obtain a license on acceptable terms or license a substitute technology or redesign to avoid infringement, our business would be harmed.

PDF Solutions®, Circuit Surfer®, pdFab® and Optissimo® are our registered trademarks and Characterization Vehicle™, CV™, DBYI™, Design-Based Yield Improvement™, Design-to-Silicon-Yield™, pdFasTest™, Yield Ramp Simulator™ and YRS™ are trademarks of PDF. All other brand names or trademarks appearing in this document are the property of their respective holders.

Employees

As of December 31, 2002, we had 220 employees, including 75 in client service teams, 99 in products and methods, 20 in sales and marketing and 26 in general and administrative functions. 156 of these employees are located in San Jose/ San Diego, California, 19 are located in Texas and Virginia, 27 are located in Germany, 7 employees are located in Japan and 11 employees are located in Italy. Of our 220 total employees, 181 are engineers, 152 of which have advanced degrees including 87 with Ph.Ds.

None of our employees are represented by a labor union or are subject to a collective bargaining agreement. We believe our relationship with our employees is good.

Executive Officers

The following table and notes set forth information about our executive officers as of December 31, 2002:

Name	Age	Position
John K. Kibarian, Ph.D.	38	Chief Executive Officer, President and Director
Thomas F. Cobourn, Ph.D.	42	Vice President, Yield Analysis
Bruce J. Hansen	65	Vice President, Products and Methods
David A. Joseph	49	Executive Vice President, Sales, Marketing, and Business Development
Douglas Raymond	51	Executive Vice President, Client Services
P. Steven Melman	48	Chief Financial Officer and Vice President, Finance and Administration
Kimon Michaels, Ph.D.	36	Vice President, Integration Practice and Director
P.K. Mozumder, Ph.D.	40	Vice President, Integration Practice
Rebecca Baybrook	51	Vice President, Human Resources
Cees Hartgring	49	Vice President, Worldwide Sales

John K. Kibarian, Ph.D., one of our founders, has served as President since November 1991 and has served as our Chief Executive Officer since July 2000. Mr. Kibarian has served as a director since December 1992. Mr. Kibarian received a B.S. in Electrical Engineering, a M.S. E.C.E. and a Ph.D. E.C.E. from Carnegie Mellon University.

Thomas F. Cobourn, Ph.D., one of our founders, has served in Vice Presidential capacities since June 1992 including currently as Vice President, Yield Analysis. Mr. Cobourn received a B.S., Computer Science and Engineering from the University of Pennsylvania and a M.S. E.C.E. and Ph.D. E.C.E. from Carnegie Mellon University.

Bruce J. Hansen, has served as Vice President, Products and Methods, since July 2001. From 1988 to 2001, Mr. Hansen served as a consultant at high technology consulting organizations including PRTM (1999 to 2000) and Thomas Group (1988-1996, 2001), where he was a senior partner. From 1996 to 1999, Mr. Hansen led product development as Director of Technology Management at National Semiconductor. He also held vice president positions at Triad Systems and Motorola Corporation. Mr. Hansen received a B.S. in Electrical Engineering from the University of California, Berkeley and a M.S. in Electrical Engineering from the University of California, Irvine.

David A. Joseph has served as Executive Vice President, Sales, Marketing, and Business Development since August 2001. He served as Vice President, Products and Methods from July 1999 through August 2001 and as Vice President, Business Development from November 1998 through June 1999. From February 1978 to October 1998, Mr. Joseph served KLA/Tencor, a semiconductor manufacturing company, in various positions, including as Japan Business Manager, VP Customer Satisfaction and GM Yield Analysis Software. Mr. Joseph received a B.S. in Mathematical Science from Stanford University.

Douglas Raymond has served as Executive Vice President, Client Services, since October 2002. From 1999 to 2002 he served as General Manager of the Knowledge Services Division of Agilent Technologies, Inc., a fee based consulting organization. From 1992 to 1999, Mr. Raymond worked for Hewlett-Packard, a computer company, where he held various senior management positions in business development organizations. Mr. Raymond has a B.S. in Computer Science from Franklin Pierce College and has done extensive coursework in Electrical Engineering at the University of Massachusetts (Lowell) and Fitchburg State College.

P. Steven Melman has served as Chief Financial Officer and Vice President, Finance and Administration since July 1998. From April 1997 to June 1998, Mr. Melman served as Vice President Finance and Administration with Animation Science Corporation, an animation company. From April 1995 to April 1997, he served as Vice President, Finance and Chief Financial Officer with Business Resource Group, a facilities

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management and commercial furnishings company. Mr. Melman received a B.S. in Business Administration from Boston University. Mr. Melman is a Certified Public Accountant.

Kimon Michaels, Ph.D., one of our founders, has served in Vice Presidential capacities since March 1993 including currently as Vice President, Integration Practice, and as a director since November 1995. He also served as Chief Financial Officer from November 1995 to July 1998. Mr. Michaels received a B.S. in Electrical Engineering, a M.S. E.C.E. and a Ph.D. E.C.E. from Carnegie Mellon University.

P.K. Mozumder, Ph.D. has served as Vice President, Integration Practice since May 1998. From June 1994 to May 1998, Mr. Mozumder served as a Branch Manager with Texas Instruments, Inc., a consumer electronics and semiconductor company. Mr. Mozumder received a B. Tech in Electrical Engineering from the Indian Institute of Technology in Bombay, India, and a M.S. E.C.E. and a Ph.D. E.C.E. from Carnegie Mellon University.

Cees Hartgring has served as Vice President, Sales since September 2002. From 2000 to 2001, Mr. Hartgring served as President and CEO of Trimedia Technologies, a Philips Semiconductor spinout. From 1990 to 2000, Mr. Hartgring worked for Philips Semiconductor in executive positions with responsibility for developing new products and businesses. He has a Ph.D. in Electrical Engineering and Computer Science from UC Berkeley.

Rebecca Baybrook has served as Vice President, Human Resources since May 2002. From 2001 to 2002, Ms. Baybrook served as Sr. Director, Human Resources for Vitria Technologies, an integrated software company. From 1999 to 2001 she served as Director, Human Resources for 3Com, a telecommunications company. From 1986 to 1999, Ms. Baybrook served as Assistant Vice President of Human Resources for Knight Ridder, Inc. She has a Ph.D. in Organizational Psychology from University of South Florida and a B.A. from Westmont College.

Available Information

Our Internet website address is www.PDF.com. You may obtain, free of charge on our Internet website, copies of our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission.

Item 2. Properties.

Our principal executive offices are located in San Jose, California where we lease approximately 36,000 square feet under two 18,000 square foot leases that expire in May 2003 and October 2004. We lease 5,100 square feet in Dallas, Texas under a lease that expires in April 2005. We are presently in negotiation to lease 11,000 square feet located in San Diego, California. In addition, we lease 11,000 square feet in Munich, Germany, 1,600 square feet in Tokyo, Japan and 3,500 square feet in Desenzano, Italy under leases that expire in January 2007, April 2004, and December 2008, respectively. We believe our existing facilities and those in negotiation are adequate to meet our current needs. We are presently in negotiation with our landlord in San Jose, California and believe we will extend our leases for a duration and at lease rates acceptable to us.

Item 3. Legal Proceedings.

We are not currently party to any material legal proceedings. In May 2001, we were named as a defendant in a lawsuit claiming, among other things, that we misappropriated trade secrets in connection with hiring an employee. This litigation was settled by all parties in the quarter ended June 30, 2002. All expenses related to the lawsuit have been reflected in our current financial statements.

Item 4. Submission of Matters to a Vote of Security Holders.

None.

PART II**Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.**

Our common stock has traded on the Nasdaq National Market under the symbol "PDFS" since our initial public offering on July 26, 2001. As of March 21, 2003 we had approximately 200 stockholders of record and the closing price of our common stock was \$6.38 per share as reported by the Nasdaq National Market.

The following table sets forth for the periods indicated the high and low closing sale prices for our common stock as reported by the Nasdaq National Market:

Fiscal 2002	High	Low
First Quarter	\$20.50	\$13.05
Second Quarter	\$17.18	\$ 6.53
Third Quarter	\$ 8.00	\$ 4.95
Fourth Quarter	\$ 9.10	\$ 5.46
Fiscal 2001	High	Low
Third Quarter	\$16.62	\$ 9.90
Fourth Quarter	\$21.35	\$10.00

No cash dividends were declared or paid in fiscal 2002 or 2001. We currently intend to retain all available funds to finance future internal growth and product development and do not anticipate paying any cash dividends on our common stock for the foreseeable future.

Use of Proceeds

Our Registration Statement on Form S-1 (File No. 333-43192) related to our initial public offering was declared effective by the SEC on July 26, 2001. The public offering commenced on July 27, 2001. All 4,500,000 shares of common stock offered in the final prospectus, as well as an additional 675,000 shares of common stock subject to the underwriters' over-allotment option, were sold at the closing on August 1, 2001 at a price to the public of \$12.00 per share (before deducting underwriting discounts and commissions) through a syndicate of underwriters managed by Credit Suisse First Boston Corporation, Robertson Stephens, Inc. and Dain Rauscher Incorporated. The aggregate gross proceeds of the shares offered and sold was \$62.1 million, out of which we paid an aggregate of \$4.3 million in underwriting discounts and commissions to the underwriters. Our total expenses, including underwriting discounts and commissions were approximately \$5.6 million.

We intend to use the net proceeds of the public offering primarily for general corporate purposes, including working capital and capital expenditures. The amounts and timing of these expenditures will vary depending on a number of factors, including the amount of cash generated or used by our operations, competitive and technological developments and the rate of growth, if any, of our business. We may use some of the net proceeds to acquire up to \$10 million of outstanding shares of our common stock in open market or negotiated transactions pursuant to the repurchase program approved by our Board of Directors in February 2003. We may also use a portion of the net proceeds to acquire businesses, services, products or technologies or invest in businesses that we believe will complement our current or future business. As a result, we will retain broad discretion in the allocation of the proceeds of the public offering. Pending the uses described above, we will invest the net proceeds of the public offering in cash, cash equivalents, money market funds or short-term interest-bearing, investment-grade securities to the extent consistent with applicable regulations. We cannot predict whether the proceeds will be invested to yield a favorable return.

Recent Sales of Unregistered Securities

None.

Item 6. Selected Consolidated Financial Data.

The following selected financial information has been derived from the audited consolidated financial statements. The information set forth below is not necessarily indicative of results of future operations and should be read in conjunction with Item 7. "Management's Discussion and Analysis of Financial Conditions and Results of Operations" and the consolidated financial statements and notes to those statements included herein and in Part II of this Form 10-K, respectively.

	Year Ended December 31,				
	2002	2001	2000	1999	1998
(In thousands, except per share data)					
Consolidated Statements of Operations Data:					
Revenue:					
Design-to-silicon-yield solutions	\$33,685	\$28,115	\$16,673	\$11,118	\$6,589
Gain share	10,039	8,733	4,597	1,257	—
Total revenue	43,724	36,848	21,270	12,375	6,589
Costs and expenses:					
Cost of design-to-silicon-yield solutions	14,986	13,219	8,050	4,642	1,895
Research and development	15,247	12,196	6,418	3,087	1,864
Selling, general and administrative	10,352	11,006	7,332	4,295	2,959
Offering costs	—	—	1,258	—	—
Stock-based compensation amortization*	2,711	7,371	7,293	68	61
Total costs and expenses	43,296	43,792	30,351	12,092	6,779
Income (loss) from operations	428	(6,944)	(9,081)	283	(190)
Interest and other income, net	1,549	1,232	347	105	128
Income (loss) before taxes	1,977	(5,712)	(8,734)	388	(62)
Tax provision (benefit)	1,453	(1,840)	363	533	342
Net loss	524	(3,872)	(9,097)	(145)	(404)
Preferred dividend	—	(1,619)	—	—	—
Loss attributable to common stockholders	\$ 524	\$ (5,491)	\$ (9,097)	\$ (145)	\$ (404)
Net income (loss) per share:					
Basic	\$ 0.02	\$ (0.38)	\$ (1.24)	\$ (0.02)	\$ (0.08)
Diluted	\$ 0.02	\$ (0.38)	\$ (1.24)	\$ (0.02)	\$ (0.08)
Weighted average common shares:					
Basic	21,962	14,425	7,356	6,086	4,944
Diluted	23,199	14,425	7,356	6,086	4,944
*Stock-based compensation amortization:					
Cost of design-to-silicon yield solutions	\$ 826	\$ 1,996	\$ 1,715	\$ 20	\$ 18
Research and development	1,341	3,227	4,016	48	43
Selling, general and administrative	544	2,148	1,562	—	—
	\$ 2,711	\$ 7,371	\$ 7,293	\$ 68	\$ 61
Consolidated Balance Sheets Data:					
Cash and cash equivalents	\$71,490	\$70,835	\$ 7,626	\$ 1,933	\$2,155
Working capital	73,569	69,994	3,708	2,153	2,501
Total assets	89,799	83,316	15,514	5,644	4,837
Long-term debt, less current portion	15	31	56	72	—
Convertible preferred stock	—	—	8,457	3,497	3,497
Total stockholders' equity (deficiency)	78,742	72,884	(2,026)	(512)	(480)

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Forward-Looking Statements

You should read the following discussion in conjunction with our consolidated financial statements and notes set forth under "Item 8. Financial Statements and Supplementary Data" and "Factors Which May Affect Future Results" included in this Item 7. The results described below are not necessarily indicative of the results to be expected in any future period. Certain statements in this discussion and analysis, including statements regarding our strategy, financial performance and revenue sources, are forward-looking statements based on current expectations and entail various risks and uncertainties that could cause actual results to differ materially from those expressed in the forward-looking statements, including those described in "Factors Which May Affect Future Results" and elsewhere in this Form 10-K.

Overview

Our technologies and services enable semiconductor companies to improve yield and performance of integrated circuits by providing infrastructure to integrate the design and manufacturing processes. Our solutions combine proprietary manufacturing process simulation software, yield and performance modeling software, test chips, a proprietary electrical wafer test system, yield and performance enhancement methodologies, and professional services.

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 Applied Integrated Systems and Software GmbH, or 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.

Critical Accounting Policies

Financial Reporting Release No. 60 requires all companies to include a discussion of critical accounting policies or methods used in the preparation of financial statements. Note 1 of the notes to the consolidated financial statements includes a summary of the significant accounting policies and methods used in the preparation of our consolidated financial statements. The following is a brief discussion of the more significant accounting policies and methods that we use.

General

Our discussion and analysis of our financial condition and result of operations are based on our consolidated financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America. Our preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. We based our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. The most significant estimates and assumptions relate to revenue recognition, impairment of goodwill and the realization of deferred tax assets and allowance for doubtful accounts. Actual amounts may differ from such

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estimates under different assumptions or conditions. The following summarizes our critical accounting policies and significant estimates used in preparing our consolidated financial statements:

Revenue Recognition

We derive revenue from two sources: Design-to-Silicon-Yield solutions and gain share. We recognize revenue in accordance with the provisions of American Institute of Certified Public Accountants Statement of Position ("SOP") 97-2, *Software Revenue Recognition*, as amended, and SOP 81-1, *Accounting for Performance of Construction-Type and Certain Production-Type Contracts*.

Design-to-Silicon-Yield Solutions — Design-to-silicon-yield solutions revenue is derived from solution implementations, software licenses and software support and maintenance. Revenue recognition for each element of Design-to-Silicon-Yield solutions is summarized as follows:

Solution Implementations — Our solution implementations generate a significant portion of revenue from fixed-price contracts delivered over a specific period of time. These contracts require the accurate estimation of the cost to perform obligations and the overall scope of each engagement. Revenue under contracts for solution implementation services is recognized as the services are performed using the cost-to-cost percentage of completion method of contract accounting. Losses on solution implementation contracts are recognized when determined. Revisions in profit estimates are reflected in the period in which the conditions that require the revision become known and can be estimated. If we do not accurately estimate the resources required or the scope of work to be performed, or do not manage the projects properly within the planned period of time or satisfy our obligations under contracts, resulting contract margins could be materially different than those anticipated when the contract was executed. Any such reductions in contract margin could have a material negative impact on our operating results.

Software Licenses — We have entered into a few multi-year time based licenses, generally three years. Revenue under arrangements which require us to provide support and maintenance over a period of time, where vendor-specific objective evidence of fair value does not exist to allocate a portion of the total fee to the undelivered elements, are recognized ratably over the term of the agreement. No revenue under arrangements with extended payment terms has been recognized in excess of amounts due.

Other license fees are recognized on the residual value method: (i) when an agreement has been signed, the software has been delivered, the license fee is fixed or determinable and collection of the fee is probable or (ii) as a component of a related solution implementation contract.

Software Support and Maintenance — Amounts allocated to undelivered support and maintenance are based on vendor specific objective evidence, generally negotiated renewal rates. Revenue from allocated support and maintenance and renewals is recognized ratably over the term of the support and maintenance contract, generally one year.

Gain Share — Gain share revenue represents profit sharing and performance incentives earned based upon our customers reaching certain defined operational levels. Upon achieving such operational levels, we receive either a fixed fee and/or royalties based on the units manufactured by the customer. Due to the uncertainties surrounding attainment of such operational levels, we recognize gain share revenue (to the extent of completion of the related solution implementation contract) upon receipt of performance reports or other related information from the customer supporting the determination of amounts and probability of collection. Our continued receipt of gain share revenue is dependent on many factors which are outside our control, including among others, continued production of the related integrated circuits (IC's) by our customers, sustained yield improvements by our customers and our ability to enter into new Design-to-Silicon-Yield solutions contracts containing gain share provisions.

Software Development Costs — Costs for the development of new software products and substantial enhancements to existing software products are expensed as incurred until technological feasibility has been established, at which time any additional costs would be capitalized in accordance with Statement of Financial

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Accounting Standards (SFAS) No. 86, *Computer Software to be Sold, Leased or Otherwise Marketed*. Because we believe our current process for developing software is essentially completed concurrently with the establishment of technological feasibility, no costs have been capitalized to date.

Goodwill and Intangible Assets — As of December 31, 2002, we had \$882,000 of goodwill and intangible assets. In assessing the recoverability of our goodwill and intangible assets, we must make assumptions regarding estimated future cash flows and other factors to determine the fair value of the respective assets. If these estimates or their related assumptions change in the future, we may be required to record impairment charges for these assets. On January 1, 2002 we adopted Statement of Financial Accounting Standards No. 142, *Goodwill and Other Intangible Assets*, and have performed our transition impairment test of goodwill as of January 1, 2002 which did not indicate any impairment. SFAS No. 142 also requires that goodwill be tested for impairment on an annual basis and more frequently in certain circumstances. The required annual goodwill impairment test was performed as of December 31, 2002. We did not recognize any goodwill impairment as a result of performing this annual test.

Realization of Deferred Tax Assets — As of December 31, 2002, we had net deferred tax assets of \$1.9 million. Realization of deferred tax assets is dependent on our ability to generate future taxable income and utilize tax planning strategies. We have recorded a deferred tax asset to the amount that is more likely than not to be realized based on current estimations and assumptions. We evaluate the valuation allowance on a quarterly basis. Any resulting changes to the valuation allowance would result in an adjustment to income in the period the determination is made. In 2001, we reversed our deferred tax asset valuation allowance of \$2.1 million due to our evaluation of current evidence and its effect on our estimate of future earnings.

Stock-Based Compensation — We account for stock-based compensation in accordance with the provisions of Accounting Principles Board Opinion No. 25 ("APB No. 25"), *Accounting for Stock Issued to Employees*, and comply with the disclosure provisions of Statement of Financial Accounting Standards No. 123 ("SFAS No. 123") as amended by SFAS No. 148, *Accounting for Stock-Based Compensation — Transition and Disclosure*. Deferred compensation recognized under APB No. 25 is amortized to expense using the graded vesting method. We account for stock options and warrants issued to non-employees in accordance with the provisions of SFAS No. 123 and Emerging Issues Task Force No. 96-18 under the fair value based method.

Results of Operations

The following table sets forth, for fiscal years indicated, the percentage of total revenue represented by the line items reflected in our consolidated statements of operations:

	Years Ended December 31,		
	2002	2001	2000
Revenue:			
Design-to-silicon-yield solutions	77%	76%	78%
Gain share	23	24	22
Total revenue	100	100	100
Costs and expenses:			
Cost of design-to-silicon-yield solutions	34	36	38
Research and development	35	33	30
Selling, general and administrative	24	30	35
Offering costs	—	—	6
Stock-based compensation amortization	6	20	34
Total costs and expenses	99	119	143

	Years Ended December 31,		
	2002	2001	2000
Income (loss) from operations	1	(19)	(43)
Interest and other income, net	3	3	2
	—	—	—
Income (loss) before taxes	4	(16)	(41)
Tax provision (benefit)	3	5	2
	—	—	—
Net income (loss)	1	(11)	(43)
Preferred dividends	—	(4)	—
	—	—	—
Net income (loss) attributable to common stockholders	1%	(15)%	(43)%

Years Ended December 31, 2002 and 2001

Total revenue for the year ended December 31, 2002 was \$43.7 million, compared with \$36.8 million for the year ended December 31, 2001, an increase of 19%.

Design-to-Silicon-Yield Solutions. Design-to-Silicon-Yield solutions revenue for the year ended December 31, 2002 was \$33.7 million, compared with \$28.1 million for the year ended December 31, 2001, an increase of 20%. The increase for year ended December 31, 2002 was attributable to a greater number of solution implementations as well as an increase in the average revenue per solution implementation.

Gain Share. Gain share revenue for the year ended December 31, 2002 was \$10.0 million, compared with \$8.7 million for the year ended December 31, 2001, an increase of 15%. The increase for the year ended December 31, 2002 was the result of attaining gain share from a larger number of existing customer solution implementations.

Cost of Design-to-Silicon-Yield Solutions. Cost of Design-to-Silicon-Yield solutions for the year ended December 31, 2002 was \$15.0 million, compared with \$13.2 million for the year ended December 31, 2001, an increase of 13%. The absolute dollar increase in Cost of Design-to-Silicon-Yield Solutions for the year ended December 31, 2002 was primarily due to a greater number of solution implementations. As a percentage of Design-to-Silicon-Yield solutions revenue, Cost of Design-to-Silicon-Yield solutions for the year ended December 31, 2002 was 45%, compared with 47% for the year ended December 31, 2001. The percentage decrease for year ended December 31, 2002 was primarily the result of an increase in average revenue per Design-to-Silicon-Yield solutions contract.

Research and Development. Research and development expenses for the year ended December 31, 2002 were \$15.2 million, compared with \$12.2 million for the year ended December 31, 2001, an increase of 25%. The absolute dollar increase in research and development expenses was primarily due to increases in personnel related costs and non-recurring engineering expenses for the joint development of new products under a collaborative business arrangement. As a percentage of total revenue, research and development expenses for the year ended December 31, 2002 was 35%, compared with 33% for the year ended December 31, 2001. The percentage increase was primarily the result of increases in non-recurring engineering. We anticipate that we will continue to commit considerable resources to research and development in the future and that these expenses will continue to increase significantly in absolute dollars.

Selling, General and Administrative. Selling, general and administrative expenses for the year ended December 31, 2002 were \$10.4 million, compared with \$11.0 million for the year ended December 31, 2001, a decrease of 6%. The absolute dollar decrease in selling, general and administrative expenses was attributable to lower sales commissions, reduced professional services expenses and the reduction of goodwill amortization expense due to the adoption of SFAS 142 on January 1, 2002 according to which we no longer amortize the carrying value of goodwill. As a percentage of total revenue, selling, general and administrative expenses for the year ended December 31, 2002 were 24%, compared with 30% for the year ended December 31, 2001. The percentage decrease for the year ended December 31, 2002 was primarily the result of the absolute dollar decrease in selling, general and administrative expenses, coupled with the growth in revenue. We expect that

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selling, general and administrative expenses will increase in absolute dollars to support increased selling and administrative efforts.

Stock-Based Compensation Amortization. Stock-based compensation amortization for the year ended December 31, 2002 was \$2.7 million, compared with \$7.4 million for the year ended December 31, 2001, a decrease of 63%. The decrease was due to the effects of the graded vesting method of amortization resulting in higher amortization expense during the initial period following the respective option grants.

Interest and Other Income, Net. Interest and other income, net for the year ended December 31, 2002 was \$1.5 million, compared with \$1.2 million for the year ended December 31, 2001, an increase of 26%. The increase was primarily due to interest earned on higher average cash and cash equivalents balances in 2002 resulting from proceeds received from our initial public offering and concurrent private placement in the third quarter of 2001.

Provision (Benefit) for Taxes. Provision for taxes for the year ended December 31, 2002 was \$1.5 million compared with a tax benefit of \$1.8 for the year ended December 31, 2001, an increase of 179%. The increase was primarily due to increased profitability.

Years Ended December 31, 2001 and 2000

Total revenue for the year ended December 31, 2001 was \$36.8 million, compared with \$21.3 million for the year ended December 31, 2000, an increase of 73%.

Design-to-Silicon-Yield Solutions. Design-to-Silicon-Yield solutions revenue for the year ended December 31, 2001 was \$28.1 million, compared with \$16.7 million for the year ended December 31, 2000, an increase of 69%. The increase for the year ended December 31, 2001 was primarily attributable to a greater number and increased size of solution implementations during 2001 as compared to 2000.

Gain Share. Gain share revenue for the year ended December 31, 2001 was \$8.7 million, compared with \$4.6 million for the year ended December 31, 2000, an increase of 90%. The increase for the year ended December 31, 2001 was the result of attaining increased levels of gain share from new and existing customers.

Cost of Design-to-Silicon-Yield Solutions. Cost of Design-to-Silicon-Yield solutions for the year ended December 31, 2001 was \$13.2 million, compared with \$8.1 million for the year ended December 31, 2000, an increase of 64%. This absolute dollar increase in Cost of Design-to-Silicon-Yield solutions in the year ended December 31, 2001 was primarily due to a greater number and increased average size of solution implementations. As a percentage of Design-to-Silicon-Yield solutions revenue, Cost of Design-to-Silicon-Yield solutions was 47% for the year ended December 31, 2001, compared with 48% for the year ended December 31, 2000. The percentage decrease was primarily the result of an increase in higher margin Design-to-Silicon-Yield solutions contracts, partially offset by the cost of increasing capacity.

Research and Development. Research and development expenses for the year ended December 31, 2001 were \$12.2 million, compared with \$6.4 million for the year ended December 31, 2000, an increase of 90%. The absolute dollar increase in the year ended December 31, 2001 was primarily due to the addition of personnel and the increase in personnel related costs for development of existing and new technologies, partially as a result of our acquisition of AISS. As a percentage of total revenue, research and development expenses were 33% for the year ended December 31, 2001, compared to 30% for the year ended December 31, 2000.

Selling, General and Administrative. Selling, general and administrative expenses for the year ended December 31, 2001 were \$11.0 million, compared with \$7.3 million for the year ended December 31, 2000, an increase of 50%. This increase was due to increased spending in personnel and related costs and legal and other professional services in connection with building the necessary administrative infrastructure to support the growth of our operations. As a percentage of total revenue, selling, general and administrative expenses were 30% for the year ended December 31, 2001, compared to 34% for the year ended December 31, 2000.

Stock-Based Compensation Amortization. Stock-based compensation amortization expense for the year ended December 31, 2001 was \$7.4 million, compared with \$7.3 million for the year ended December 31,

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2000, an increase of 1%. This increase was attributable primarily to accelerated options under a separation agreement.

Interest and Other Income, Net. Interest and other income, net for the year ended December 31, 2001 was \$1.2 million, compared with \$347,000 for the year ended December 31, 2000, an increase of 255%. This increase was due to higher average cash and cash equivalents balances primarily resulting from our initial public offering and concurrent private placement.

Provision (Benefit) for Taxes. Provision for taxes, a benefit for the year ended December 31, 2001, was \$1.8 million, compared with a tax provision of \$363,000 for the year ended December 31, 2000, a decrease of 607%. During the fourth quarter of 2001, it was determined that a valuation allowance reported against our deferred tax assets was no longer necessary based on our evaluation of current evidence and its effect on our estimate of future earnings. Accordingly, we reversed our deferred tax valuation allowance of \$2.1 million in the fourth quarter.

Liquidity and Capital Resources

As of December 31, 2002, working capital was \$73.6 million, compared with \$70.0 million as of December 31, 2001. Cash and cash equivalents as of December 31, 2002 were \$71.5 million, compared to \$70.8 million as of December 31, 2001, an increase of \$655,000.

Net cash provided by operating activities was \$1.0 million for the year ended December 31, 2002 compared to net cash provided by operating activities of \$2.8 million for the year ended December 31, 2001. Net cash provided by operating activities for the year ended December 31, 2002 resulted from net income of \$5.0 million after adjustment for depreciation and amortization of \$1.7 million and amortization of deferred stock compensation cost of \$2.7 million, and increases in deferred revenue of \$1.7 million, other accrued liabilities and taxes payable of \$1.4 million, and billings in excess of revenue recognized of \$432,000 offset by increases in accounts receivable of \$2.6 million, prepaid and other assets of \$1.3 million and deferred tax asset of \$727,000 and decreases in accrued compensation and related benefits of \$2.9 million, and accounts payable of \$239,000. The increase in deferred revenue was the result of an annual invoice to a customer under an original equipment manufacturer ("OEM") license agreement for which revenue is recognized ratably over the term of the agreement and deferred revenue recognition on a multi-element software arrangement for which sufficient vendor-specific objective evidence for the undelivered elements did not exist. The increase in accrued liabilities and taxes payable was primarily the result of increases in taxes payable due to increased profitability. The increase in accounts receivable was attributable to performance under an increased number of contracts. The increase in prepaid and other assets was primarily the result of prepayment of annual commercial insurance and rent. The decrease in accrued compensation and related benefits was primarily the result of the payment of performance incentives for 2001.

Net cash used in investing activities was \$2.9 million for the for the year ended December 31, 2002 compared to \$1.5 million for the year ended December 31, 2001. Net cash used in investing activities for the year ended December 31, 2002 resulted from the purchases of property and equipment, including the investment in characterization vehicle foundry technology for our Design-Based-Yield Improvement product.

Net cash provided by financing activities was \$2.5 million for the year ended December 31, 2002 compared to \$62.0 million for the year ended December 31, 2001. Net cash provided by financing activities for the year ended December 31, 2002 was primarily the result of proceeds from an employee stock purchase plan of \$1.4 million and repayment of employee notes receivable of \$1.0 million. Net cash provided by financing activities in 2001 was primarily the result of net proceeds of \$56.5 million from our initial public offering and \$5.9 million from the concurrent private placement of common stock, offset by the repayment of notes payable of \$995,000 issued in conjunction with the acquisition of AISS.

We expect to experience growth in our operating expenses, particularly for research and development and additions to our workforce in order to execute our business plan. As a result, we anticipate that our operating expenses, as well as planned capital expenditures, will constitute a material use of our cash resources. In addition, we may use cash resources to fund potential acquisitions of complementary products, technologies or

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businesses. We believe that our existing cash resources, available bank financing and anticipated funds from operations will satisfy our cash requirements for at least the next twelve months. In the event additional financing is required, we may not be able to raise it on acceptable terms or at all.

Euro-Currency

The Single European Currency, or Euro, was introduced on January 1, 1999 and we began doing business denominated in the Euro on January 1, 2002. This adoption did not have a material effect on our business.

Recent Accounting Pronouncements

In July 2002, the Financial Accounting Standards Board ("FASB") issued Statements of Financial Accounting Standards ("SFAS") No. 146, "Accounting for Costs Associated with Exit or Disposal Activities." SFAS 146 addresses financial accounting and reporting for costs associated with exit or disposal activities and nullifies Emerging Issues Task Force ("EITF") Issue No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity (Including Certain Costs Incurred in a Restructuring)" and must be applied beginning January 1, 2003. SFAS 146 requires that a liability for a cost associated with an exit or disposal activity be recognized when the liability is incurred rather than when the exit or disposal plan is approved. We do not expect that the adoption of SFAS 146 will have an effect on our consolidated financial statements. We will adopt the provisions of SFAS 146 for exit and disposal activities that are initiated after December 31, 2002, as required by the standard.

In November 2002, the FASB issued FASB Interpretation No. 45, "Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others" ("FIN 45"). FIN 45 requires companies to recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. Guarantees in existence at December 31, 2002 are grandfathered for the purposes of recognition and would only need to be disclosed. We do not expect that the adoption of FIN 45 will have an effect on our consolidated financial statements. We will adopt the initial recognition and measurement provisions of FIN 45 for guarantees issued or modified after December 31, 2002.

In December 2002, the EITF reached a consensus on EITF 00-21, "Revenue Arrangements with Multiple Deliverables". This issue addresses certain aspects of the accounting by a vendor for arrangements under which it will perform multiple revenue-generating activities. In some arrangements, the different revenue-generating activities (deliverables) are sufficiently separable and there exists sufficient evidence of their fair values to separately account for some or all of the deliverables (that is, there are separate units of accounting). In other arrangements, some or all of the deliverables are not independently functional, or there is not sufficient evidence of their fair values to account for them separately. This issue addresses when and, if so, how an arrangement involving multiple deliverables should be divided into separate units of accounting. This issue does not change otherwise applicable revenue recognition criteria. The guidance in this issue is effective for revenue arrangements entered into in fiscal periods beginning after June 15, 2003. We do not expect that the adoption of EITF 00-21 will have a material effect on our consolidated financial statements.

In December 2002, the FASB issued SFAS 148, "Accounting for Stock-Based Compensation — Transition and Disclosure, an amendment to FASB Statement 123". SFAS 148 provides alternative methods of transition for a voluntary change to the fair value based method of accounting of stock-based employee compensation. In addition, SFAS 148 amends the disclosure requirements of SFAS 123, "Accounting for Stock-Based Compensation", to require prominent disclosures in both annual and interim financial statements about the method of accounting for stock-based employee compensation and the effect of the method used on reported results. We adopted the disclosure provisions of SFAS 148 effective December 31, 2002.

Non-Audit Services Provided by Independent Auditors

During fiscal 2002, our independent auditors, Deloitte & Touche LLP, performed the following non-audit services that have been approved by our Audit Committee of the Board of Directors: International and U.S. tax planning and compliance services.

Factors Which May Affect Future Results

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

If semiconductor designers and manufacturers do not 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 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 will need to 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.

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.

General economic conditions and other worldwide events, including the probability of a prolonged war with Iraq, may reduce our revenues and harm our business.

Future political or related events similar or comparable to the September 11, 2001 terrorist attacks, or significant military conflicts such as the war in Iraq, or long term reactions of governments and society to such events, may cause significant delays or reductions in technology purchases or limit our ability to travel to certain parts of the world. In addition to political risks, the global economy has remained in a downturn and any further global or regional weakening or the extension of the current recession beyond current reasonable market expectations could have a material adverse effect on our business and our financial condition and results of operations. The impact of these events and this slowdown on us is difficult to predict, but it may

result in reductions in purchases of our technologies and services by our customers, longer sales cycles and increased price competition.

Our adoption of a novel and unproven business model makes it difficult to evaluate our future prospects.

Since we adopted our current business model, we do not have a long history of operating results on which you can base your evaluation of our business. In 1998, we began selling software, services and other technologies together as a Design-to-Silicon-Yield solution for the first time. Because we have not demonstrated our ability to generate significant revenue, our business model is unproven, especially with respect to gain share fees, which we expect will constitute a significant portion of our revenue for the foreseeable future. In the past, we generally earned fixed fees for the separate sale of our software, services and other technologies. Under our current business model, we are selling these items together as a package and charging both a fixed fee and a variable fee based on demonstrated improvements in our customers' yields, which we call gain share. Our existing and potential customers may resist this approach and may seek to limit or restrict our gain share fees. As a result, it will be difficult for financial markets analysts and investors to evaluate our future prospects.

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

Our gain share revenue for a particular product is largely determined by the volume of that product 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. 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. Since we currently work on a small number of large projects, any product that does not achieve commercial viability 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 impact 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, particularly the mix between fixed and variable revenue, can adversely affect the size and timing of our total revenue.

Our 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. In addition, by increasing the gain share component, we increase the variability 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.

We generate virtually all 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 and we expect this to continue in the near term. In the twelve months ended December 31, 2002, three customers accounted for 64% of our total net revenue, with Toshiba representing 25%, Matsushita representing 22% and Sony 17%, respectively. 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 due to our expenses being fixed in the short term, the fact that it takes us a long time to replace customers and because any offsetting gain share revenue from new customers would not begin to be recognized until much later.

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

Because our gain share business model is novel 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 six 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, and we may be unable to maintain recent profitability.

We may be unable to 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 \$14.8 million as of December 31, 2002. We expect to continue to incur significant expenses in connection with:

- increased 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 deferred stock 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 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 Design-to-Silicon-Yield 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 Design-to-Silicon-Yield 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 Design-to-Silicon-Yield 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 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 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.

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 Japan. Revenue generated from customers in Japan accounted for 71% of total revenue in the year ended December 31, 2002, 77% of total revenue in the year ended December 31, 2001 and 66% of total revenue in the year ended December 31, 2000. We expect that a significant portion of our total future revenue will continue to be derived from companies based in Japan. We are subject to risks inherent in doing business in international markets. 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;
- 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;
- compliance with, and unexpected changes in, a wide variety of foreign laws and regulatory environments with which we are not familiar;

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- 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; and
- economic or political instability.

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

- any recurrence of the recent overall downturn in Asian economies could limit our ability to retain existing customers and attract new ones in Asia;
- 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; and
- if any of these risks materialize, we may be unable to continue to market our design-to-silicon yield solutions successfully in international markets.

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. 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. Currently, we are not aware of any other provider of commercial solutions for systematic IC yield and performance enhancement. We face indirect competition from the internal groups at IC companies that use an incomplete set of components that is not optimized to accelerate their process-design integration. 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. Other companies, such as HPL Technologies which, through its acquisition of Test Chip Technologies, has indicated its intent to further utilize test chips in its product offering, may in the future seek to enter the silicon infrastructure market. 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. If these potential competitors 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 Design-to-Silicon-Yield solutions as a result of the increase in competition.

We must effectively manage and support our 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 will also 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 adequately, 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.

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. Given the time pressures involved in bringing IC products to market, targeted customers may proceed without us if we are not able to commence their solution implementation on time. Due to our lengthy sales cycle, we may be unable to replace these targeted implementations in a timely manner, which could cause fluctuations in our operating results.

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.

Our chief executive officer and our executive vice president of sales, marketing and business development 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 John Kibarian, our President and Chief Executive Officer, and David Joseph, our Executive Vice President, Sales, Marketing and Business Development. If we lose the services of either of these key executives, it could slow execution of our business plan, hinder our product development processes and impair our sales efforts. Searching for their replacements could divert our 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 these 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.

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.

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. For example, in May 2001, we were named as a defendant in a lawsuit claiming, among other things, that we misappropriated trade secrets in connection with hiring an employee. This litigation was settled by all parties in the quarter ended June 30, 2002. In general, however, 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 and software tools could decrease our revenue and our competitive market share.

If the software 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 Design-to-Silicon-Yield solutions. Any actual or perceived defects with our software 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 or proprietary technologies or enhancements to existing software or proprietary technologies. Our software or proprietary technologies may contain errors not discovered until after customer implementation of the silicon design and manufacturing process recommended by us. If our software or proprietary technologies contain errors or defects, it could require us to expend significant resources to alleviate these problems, which could result in the diversion of technical and other resources from our other development efforts.

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, we may need to raise additional funds in order to:

- support more rapid expansion;
- develop or enhance Design-to-Silicon-Yield solutions;
- respond to competitive pressures; or
- acquire complementary businesses or technologies.

These factors will impact our future capital requirements and the adequacy of our available funds. We may need to raise additional funds through public or private financings, strategic relationships or other arrangements. We cannot guarantee that we will be able to raise any necessary funds on terms favorable to us, or at all.

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.

The semiconductor industry is cyclical in nature.

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. One such downturn commenced during the third quarter of calendar 2000 and is continuing currently. 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.

Semiconductor companies are subject to risk of natural disasters.

Semiconductor companies have in the past experienced major reductions in foundry capacity due to earthquakes in Taiwan, Japan and California. In light of our gain share revenue component, our results of operations can be significantly decreased if one of our customers must shut down IC production due to a natural disaster such as earthquake, fire, tornado or flood. Moreover, since semiconductor product life cycles have become relatively short, a significant delay in the production of a product could result in lost revenue, not merely delayed revenue.

Management will have broad discretion as to the use of proceeds from our initial public offering and, as a result, we may not use the proceeds to the satisfaction of our stockholders.

On August 1, 2001, we closed our initial public offering. Our board of directors and management have broad discretion in allocating the net proceeds therefrom. They may choose to allocate such proceeds in ways that do not produce a favorable return or are not supported by our stockholders. We have designated only limited specific uses for the net proceeds from our initial public offering.

The concentration of our capital stock ownership with insiders will likely limit your ability to influence corporate matters.

The concentration of ownership of our outstanding capital stock with our directors and executive officers may limit your ability to influence corporate matters. Our directors, executive officers and their affiliates, beneficially own a significant portion of our outstanding capital stock. As a result, these stockholders, if acting together, will have the ability to control all matters submitted to our stockholders for approval, including the election and removal of directors and the approval of any corporate transactions.

We have anti-takeover defenses that could delay or prevent an acquisition of our company.

Provisions of our certificate of incorporation and bylaws and Delaware law could make it more difficult for a third party to acquire us, even if doing so would be beneficial to our stockholders.

Our stock price is likely to be extremely volatile as the market for technology companies' stock has recently experienced extreme price and volume fluctuations.

Volatility in the market price of our common stock could result in securities class action litigation. Any litigation would likely result in substantial costs and a diversion of management's attention and resources. Despite the strong pattern of operating losses of technology companies, the market demand, valuation and trading prices of these companies has at times been high. At the same time, the share prices of these companies' stocks have been highly volatile and have recorded lows well below their historical highs. As a result, investors in these companies often buy the stock at very high prices only to see the price drop substantially a short time later, resulting in an extreme drop in value in the stock holdings of these investors. Our stock may be volatile, may not trade at the same levels as other technology stocks or at or near its historical highs.

A large number of shares becoming eligible for sale could cause our stock price to decline.

Sales of a substantial number of shares of our common stock could cause our stock price to fall. Our current stockholders hold a substantial number of shares, which they are able to sell, from time-to-time, in the public market.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk.*

The following discusses our exposure to market risk related to changes in interest rates and foreign currency exchange rates. We do not currently own any equity investments, nor do we expect to own any in the foreseeable future. This discussion contains forward-looking statements that are subject to risks and uncertainties. Actual results could vary materially as a result of a number of factors.

Interest Rate Risk. As of December 31, 2002, we had cash and cash equivalents of \$71.5 million, consisting of cash and highly liquid money market instruments with original maturities of 90 days or less. Because of the short maturities of these instruments, a sudden change in market interest rates would not have a material impact on the fair value of the portfolio. We would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest on our portfolio. A hypothetical increase in market interest rates of 10% from the market rates in effect at December 31, 2002 would cause the fair value of these investments to decrease by an immaterial amount and would not have significantly impacted our financial position or results of operations. Declines in interest rates over time will result in lower interest income.

Foreign Currency and Exchange Risk. Virtually all of our revenue is denominated in U.S. dollars, although such revenue is derived substantially from foreign customers. Some foreign sales to date, generated by our German subsidiary since the date of the AISS acquisition, have been invoiced in local currencies, creating receivables denominated in currencies other than the U.S. dollar. The risk due to foreign currency fluctuations associated with these receivables is partially reduced by local payables denominated in the same currencies, and presently we do not consider it necessary to hedge these exposures. We intend to monitor our foreign currency exposure. There can be no assurance that exchange rate fluctuations will not have a materially negative impact on our business.

Item 8. *Financial Statements and Supplementary Data.*

The consolidated financial statements and supplementary data required by this Item 8 are listed in Item 15(a)(1) and begin at page 33 of this Annual Report on Form 10-K.

Item 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.*

None.

PART III

Pursuant to Paragraph (3) of the General Instructions to Form 10-K, the information required by Part III of this Form 10-K is incorporated by reference from the Registrant's Proxy Statement to be filed with the Securities and Exchange Commission in connection with the 2003 Annual Meeting of Stockholders (the "Proxy Statement"). The Proxy Statement will be filed within 120 days after the end of our fiscal year ended December 31, 2002.

Item 10. *Directors and Executive Officers of the Registrant.*

(a) Information with respect to the directors of the Registrant appears in the Registrant's Proxy Statement under "Proposal No. 1 — Election of Directors — Nominees for the Board of Directors." This portion of our Proxy Statement is incorporated herein by reference. Information with respect to our executive officers appears in Part I, Item 1 — "Executive Officers" of this Form 10-K.

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(b) Information with respect to compliance with Section 16(a) of the Exchange Act of 1934, as amended, appears in the Registrant's Proxy Statement under "Section 16 Beneficial Ownership Reporting Compliance." This portion of our Proxy Statement is incorporated herein by reference.

Item 11. *Executive Compensation.*

The information required by this item is incorporated herein by reference to the section entitled "Compensation of Executive Officers and Other Matters — Executive Compensation" in our Proxy Statement.

Item 12. *Security Ownership of Certain Beneficial Owners and Management.*

The information required by this item is incorporated herein by reference to the section entitled "Security Ownership of Certain Beneficial Owners and Management" in our Proxy Statement.

Item 13. *Certain Relationships and Related Transactions.*

The information required by this item is incorporated herein by reference to the section entitled "Certain Relationships and Related Transactions" in our Proxy Statement.

Item 14. *Controls and Procedures*

(a) *Evaluation of disclosure controls and procedures.* Our chief executive officer and our chief financial officer, after evaluating the effectiveness of our "disclosure controls and procedures" (as defined in the Securities Exchange Act of 1934 Rules 13a-14(c) and 15-d-14(c)) as of a date (the "Evaluation Date") within 90 days before the filing date of this Annual Report on Form 10-K, have concluded that as of the Evaluation Date, our disclosure controls and procedures were adequate and designed to ensure that material information relating to us and our consolidated subsidiaries would be made known to them by others within those entities so that we are able to record, process, summarize and disclose such information in the reports we file with the SEC within the time periods specified in the SEC's rules and forms.

(b) *Changes in internal controls.* There were no significant changes in our internal controls or to our knowledge, in other factors that could significantly affect our disclosure controls and procedures subsequent to the Evaluation Date.

CEO and CFO Certifications

Appearing immediately following the signature page of this Annual Report on Form 10-K there are certifications of the chief executive officer and the chief financial officer. The certifications are required in accordance with Section 302 of the Sarbanes-Oxley Act of 2002. This section of the Annual Report on Form 10-K contains the information concerning the controls evaluation referred to in the Section 302 certifications and this information should be read in conjunction with the Section 302 certifications for a more complete understanding of the topics presented.

Disclosure Controls and Internal Controls

Disclosure controls are procedures that are designed with the objective of ensuring that information required to be disclosed in our reports filed under the Securities Exchange Act of 1934, or the Exchange Act, such as this Annual Report on Form 10-K, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls are also designed with the objective of ensuring that such information is accumulated and communicated to our management, including the chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure. Internal controls are procedures which are designed with the objective of providing reasonable assurance that our transactions are properly authorized, our assets are safeguarded against unauthorized or improper use and our transactions are properly recorded and reported, all to permit the preparation of our financial statements in conformity with generally accepted accounting principles.

Limitations on the Effectiveness of Controls

Our management, including the chief executive officer and the chief financial officer, does not expect that our disclosure controls or our internal controls will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within PDF have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, control may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Scope of the Controls Evaluation

The evaluation of our disclosure controls and our internal controls by our chief executive officer and our chief financial officer included a review of controls implemented by PDF and the effect of the controls on the information generated for use in this Annual Report on Form 10-K. In the course of the controls evaluation, we sought to identify data errors, controls problems or acts of fraud and to confirm that appropriate corrective action, including process improvements, were being undertaken. This type of evaluation will be done on a quarterly basis so that the conclusions concerning controls effectiveness can be reported in our quarterly reports on Form 10-Q and our Annual Report on Form 10-K. Our internal controls are also evaluated on an ongoing basis by our finance department. The overall goals of these various evaluation activities are to monitor our disclosure controls and our internal controls and to make modifications as necessary; our intent in this regard is that the disclosure controls and the internal controls will be maintained as dynamic systems that change (including with improvements and corrections) as conditions warrant.

Among other matters, we sought in our evaluation to determine whether there were any “significant deficiencies” or “material weaknesses” in our internal controls, or whether we had identified any acts of fraud involving personnel who have a significant role in our internal controls. This information was important both for the controls evaluation generally and because Items 5 and 6 in the Section 302 certifications of the chief executive officer and the chief financial officer require that the chief executive officer and the chief financial officer disclose that information to our board’s audit committee and to our independent auditors and to report on related matters in this section of the Annual Report on Form 10-K. In the professional auditing literature, “significant deficiencies” are referred to as “reportable conditions.” These are control issues that could have a significant adverse effect on the ability to record, process, summarize and report financial data in the financial statements. A “material weakness” is defined in the auditing literature as a particularly serious reportable condition where the internal control does not reduce to a relatively low level the risk that misstatements caused by error or fraud may occur in amounts that would be material in relation to the financial statements and not be detected within a timely period by employees in the normal course of performing their assigned functions. We also sought to deal with other controls matters in the controls evaluation and, in each case if a problem was identified, we considered what revision, improvement and/or correction to make in accordance with our ongoing procedures. In accordance with SEC requirements, the chief executive officer and the chief financial officer note that, since the date of the controls evaluation to the date of this Annual Report on Form 10-K, there have been no significant changes in internal controls or in other factors that could significantly affect internal controls, including any corrective actions with regard to significant deficiencies and material weaknesses.

Conclusions

Based upon the controls evaluation, our chief executive officer and our chief financial officer have concluded that, subject to the limitations noted above, our disclosure controls are effective to ensure that material information relating to PDF is made known to management, including the chief executive officer and the chief financial officer, particularly during the period when our periodic reports are being prepared, and that our internal controls are effective to provide reasonable assurance that our financial statements are fairly presented in conformity with generally accepted accounting principles.

PART IV

Item 15. Exhibits, Financial Statement Schedules and Reports on Form 8-K.

(a) The following documents are filed as part of this report:

(1) Financial Statements and Reports of Deloitte & Touche LLP

See Index to Consolidated Financial Statements on page 33 hereof.

(2) Valuation and Qualifying Account

See the Independent Auditors' Report and Schedule II on pages 58 and 59 hereof.

(3) Exhibits

The exhibits listed in the accompanying Index to Exhibits are filed or incorporated by reference as part of the Form 10-K

(b) Reports on Form 8-K

None.

PDF SOLUTIONS, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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INDEPENDENT AUDITORS' REPORT

To the Board of Directors and Stockholders of

PDF Solutions, Inc.

We have audited the accompanying consolidated balance sheets of PDF Solutions, Inc. and subsidiaries (collectively, the "Company") as of December 31, 2002 and 2001 and the related consolidated statements of operations, stockholders' equity (deficiency), and cash flows for each of the three years in the period ended December 31, 2002. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2002 and 2001 and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2002, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for goodwill and indefinite lived assets.

/s/ DELOITTE & TOUCHE LLP

San Jose, California

January 17, 2003

(February 19, 2003 as to Note 13)

PDF SOLUTIONS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except per share amounts)

	December 31,	
	2002	2001
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 71,490	\$ 70,835
Accounts receivable, net of allowances of \$504 in 2002, and \$292 in 2001	7,924	5,546
Prepaid expenses and other current assets	4,406	3,439
	<u>83,820</u>	<u>79,820</u>
Total current assets	83,820	79,820
Property and equipment, net	3,533	2,179
Goodwill	662	784
Intangible assets, net	220	385
Other assets	1,564	148
	<u>89,799</u>	<u>83,316</u>
Total assets	\$ 89,799	\$ 83,316
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 499	\$ 738
Accrued compensation and related benefits	1,143	4,061
Other accrued liabilities	1,652	1,826
Taxes payable	1,838	230
Deferred revenues	4,496	2,773
Billings in excess of recognized revenue	606	174
Current portion of long-term debt	17	24
	<u>10,251</u>	<u>9,826</u>
Total current liabilities	10,251	9,826
Long-term debt	15	31
Deferred tax liability	752	505
Deferred rent	39	70
Commitments and contingencies (Note 5)		
Stockholders' equity:		
Preferred stock, \$0.00015 par value, 5,000 shares authorized, no shares issued and outstanding in 2002 and 2001	—	—
Common stock, \$0.00015 par value, 75,000 shares authorized: shares issued and outstanding 23,130 in 2002 and 22,980 in 2001	3	3
Additional paid-in capital	99,884	98,651
Deferred stock-based compensation	(1,340)	(4,326)
Notes receivable from stockholders	(4,998)	(6,052)
Accumulated deficit	(14,845)	(15,369)
Accumulated other comprehensive income (loss)	38	(23)
	<u>78,742</u>	<u>72,884</u>
Total stockholders' equity	78,742	72,884
Total liabilities and stockholders' equity	\$ 89,799	\$ 83,316

See notes to consolidated financial statements.

PDF SOLUTIONS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)

	Years Ended December 31,		
	2002	2001	2000
	(In thousands, except per share amounts)		
Revenue:			
Design-to-silicon-yield solutions	\$ 33,685	\$ 28,115	\$ 16,673
Gain share	10,039	8,733	4,597
Total revenue	<u>43,724</u>	<u>36,848</u>	<u>21,270</u>
Costs and expenses:			
Cost of design-to-silicon-yield solutions	14,986	13,219	8,050
Research and development	15,247	12,196	6,418
Selling, general and administrative	10,352	11,006	7,332
Offering costs	—	—	1,258
Stock-based compensation amortization*	2,711	7,371	7,293
Total costs and expenses	<u>43,296</u>	<u>43,792</u>	<u>30,351</u>
Income (loss) from operations	428	(6,944)	(9,081)
Interest and other income, net	1,549	1,232	347
Income (loss) before taxes	1,977	(5,712)	(8,734)
Tax provision (benefit)	1,453	(1,840)	363
Net income (loss)	524	(3,872)	(9,097)
Preferred dividends	—	(1,619)	—
Net income (loss) attributable to common stockholders	<u>\$ 524</u>	<u>\$ (5,491)</u>	<u>\$ (9,097)</u>
Net income (loss) per share:			
Basic	<u>\$.02</u>	<u>\$ (0.38)</u>	<u>\$ (1.24)</u>
Diluted	<u>\$.02</u>	<u>\$ (0.38)</u>	<u>\$ (1.24)</u>
Weighted average common shares:			
Basic	<u>21,962</u>	<u>14,425</u>	<u>7,356</u>
Diluted	<u>23,199</u>	<u>14,425</u>	<u>7,356</u>
*Stock-based compensation amortization:			
Cost of design-to-silicon yield solutions	\$ 826	\$ 1,996	\$ 1,715
Research and development	1,341	3,227	4,016
Selling, general and administrative	544	2,148	1,562
	<u>\$ 2,711</u>	<u>\$ 7,371</u>	<u>\$ 7,293</u>

See notes to consolidated financial statements.

Balances, December 31, 2002	<u>23,130</u>	<u>\$ 3</u>	<u>\$ 99,884</u>	<u>\$ (1,340)</u>	<u>\$ (4,998)</u>	<u>\$ (14,845)</u>	<u>\$ 38</u>	<u>\$78,742</u>
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See notes to consolidated financial statements.

PDF SOLUTIONS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years Ended December 31,		
	2002	2001	2000
	(In thousands)		
Operating activities:			
Net income (loss)	\$ 524	\$ (3,872)	\$(9,097)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	1,722	1,406	833
Stock-based compensation expense	2,711	7,371	7,293
Provision for doubtful accounts	212	100	48
Loss on the sale of property and equipment	17	16	15
Deferred tax asset	(727)	(2,397)	—
Changes in assets and liabilities, net of effect of acquisition:			
Accounts receivable	(2,590)	(1,696)	(863)
Prepaid expenses and other assets	(1,287)	(483)	(540)
Accounts payable	(239)	224	224
Accrued compensation and related benefits	(2,918)	1,858	1,100
Deferred revenues	1,723	903	1,514
Billings in excess of recognized revenue	432	(879)	1,053
Other accrued liabilities and taxes payable	1,404	261	321
Net cash provided by operating activities	984	2,812	1,901
Investing activities:			
Purchases of property and equipment	(2,930)	(1,547)	(1,203)
Proceeds from sale of equipment	1	7	—
Acquisition of AISS, net of cash acquired	—	—	(225)
Net cash used in investing activities	(2,929)	(1,540)	(1,428)
Financing activities:			
Net cash proceeds from initial public offering	—	56,466	—
Net cash proceeds from sale of common stock to Applied Materials	—	5,880	—
Exercise of stock options and warrants	179	10	289
Proceeds from the sale of preferred stock	—	—	4,960
Proceeds from employee stock purchase plan	1,402	568	—
Repayment of notes payable	—	(995)	—
Collection of notes receivable from stockholders	981	46	9
Principal payments on long-term debt	(23)	(23)	(30)
Net cash provided by financing activities	2,539	61,952	5,228
Effect of exchange rate changes on cash	61	(15)	(8)
Net increase in cash and cash equivalents	655	63,209	5,693
Cash and cash equivalents, beginning of period	70,835	7,626	1,933
Cash and cash equivalents, end of period	\$71,490	\$70,835	\$ 7,626
Noncash investing and financing activities:			
Preferred stock dividend	\$ —	\$ 1,619	\$ —
Conversion of preferred stock into common stock	\$ —	\$ 8,456	\$ —
Common stock issued for notes receivable	\$ —	\$ 550	\$ 5,479
Property acquired under capital lease	\$ —	\$ —	\$ —
Notes payable issued to acquire AISS	\$ —	\$ —	\$ 995

Repurchase of common stock through cancellation of notes receivable	\$ 73	\$ 98	\$ 49
	<u> </u>	<u> </u>	<u> </u>
Supplemental disclosure of cash flow information —			
Cash paid during the year for:			
Taxes	\$ 560	\$ 555	\$ 582
	<u> </u>	<u> </u>	<u> </u>
Interest	\$ 3	\$ 7	\$ 5
	<u> </u>	<u> </u>	<u> </u>

See notes to consolidated financial statements.

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years Ended December 31, 2002, 2001 and 2000

1. Business and Significant Accounting Policies

PDF Solutions, Inc. (the "Company"), provides infrastructure technologies and services to improve yield and optimize performance of integrated circuits. The Company's approach includes manufacturing simulation and analysis, combined with yield improvement methodologies to increase product yield and performance.

Basis of Presentation — The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries after the elimination of all significant intercompany balances and transactions. Certain amounts from prior years have been reclassified to conform to current-year presentation. These reclassifications did not change previously reported total assets, liabilities, stockholders' equity or net loss.

Significant Estimates — The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. A significant portion of the Company's revenues require estimates in regards to total costs which may be incurred and revenues earned. Actual results could differ from these estimates.

Certain Significant Risks and Uncertainties — The Company operates in the dynamic semiconductor and software industry, and accordingly, can be affected by a variety of factors. For example, management of the Company believes that changes in any of the following areas could have a significant negative effect on the Company in terms of its future financial position, results of operations and cash flows: regulatory changes; fundamental changes in the technology underlying software technologies; market acceptance of the Company's solutions; development of sales channels; litigation or other claims against the Company; the hiring, training and retention of key employees; successful and timely completion of development efforts; and new product introductions by competitors. Due to protracted delays in the Company's initial public offering, the Company expensed offering costs of \$1.3 million in the year ended December 31, 2000.

Concentration of Credit Risk — Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. The Company maintains its cash and cash equivalents with high credit quality financial institutions.

The Company primarily sells its products to companies in Japan and North America. If the financial condition or operations of the Company's customers deteriorate the risks of collection could increase substantially. As of December 31, 2002 and 2001, two customers accounted for 50% and 60% of the Company's gross accounts receivable, respectively. For year ended December 31, 2002, three customers accounted for 64% of the Company's total revenue, respectively. For the year ended December 31, 2001, two customers accounted for 63% of the Company's total revenue, respectively. For year ended December 31, 2000, four customers accounted for 84% of the Company's total revenue, respectively. The Company does not require collateral or other security to support accounts receivable. To reduce credit risk, management performs ongoing credit evaluations of its customers' financial condition. The Company maintains allowances for potential credit losses.

Cash Equivalents — The Company considers all highly liquid investments with an original maturity of 90 days or less to be cash equivalents.

Accounts Receivable — Accounts receivable include amounts that are unbilled at the end of the period. Unbilled accounts receivable are determined on an individual contract basis and were approximately \$1.0 million and \$1.9 million at December 31, 2002 and 2001, respectively.

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Property and equipment — Property and equipment are stated at cost and are depreciated using the straight-line method over the estimated useful lives of the related asset. The estimated useful lives are as follows:

Computer and equipment	3 years
Software	3 years
Furniture, fixtures, and equipment	5-7 years
Leasehold improvements	Shorter of estimated useful life or term of lease

Intangible Assets — Intangible assets are related to the business acquisition discussed in Note 2. Amortization is recorded on a straight-line basis over a period of four years.

Goodwill and Purchased Intangible Assets — On January 1, 2002, the Company adopted SFAS No. 142, *Goodwill and Other Intangible Assets*. SFAS No. 142 requires goodwill to be tested for impairment under certain circumstances, written down when impaired, and requires purchased intangible assets other than goodwill to be amortized over their useful lives unless these lives are determined to be indefinite.

On January 1, 2002, the Company ceased amortization of goodwill with a net book value totaling \$662,000, which includes \$192,000 of acquired workforce intangibles, net of related deferred tax liabilities which were reclassified to goodwill pursuant to the requirements of SFAS No. 142.

Purchased intangible assets are carried at cost less accumulated amortization. Intangible assets at December 31, 2002 consisted entirely of acquired technology with a cost of \$660,000 and accumulated amortization of \$440,000. Amortization is computed over the estimated useful life of four years. The amortization expense on acquired technology is expected to be \$165,000 for fiscal 2003, and \$55,000 in fiscal 2004, at which time it will be fully amortized. At December 31, 2002, the Company concluded that there was no impairment loss at December 31, 2002 related to the intangible assets.

The Company performed its transition impairment test of goodwill as of January 1, 2002 which did not indicate any impairment. SFAS No. 142 also requires that goodwill be tested for impairment on an annual basis and more frequently in certain circumstances. The required annual goodwill impairment test was performed as of December 31, 2002. The Company did not recognize any goodwill impairment as a result of performing the annual test.

The following table presents the impact of SFAS No. 142 on net income and net income per share for the year ended December 31, 2002 and pro forma net loss and net loss per share as if the standard had been in effect for the years ended December 31, 2001 and December 31, 2000, (in thousands, except per-share amounts):

	December 2002	December 2001	December 2000
Reported net income (loss)	\$ 524	\$ (5,491)	\$ (9,097)
Add back goodwill amortization, net of taxes	—	88	44
Add back workforce amortization, net of taxes	—	131	65
Adjusted net income (loss)	\$ 524	\$ (5,272)	\$ (8,988)
Basic and diluted net income (loss) per share:			
Reported basic and diluted net income (loss) per share	\$ 0.02	\$ (0.38)	\$ (1.24)
Add back goodwill amortization per share	—	0.01	0.01
Add back workforce amortization per share	—	0.01	0.01
Adjusted basic and diluted net income (loss) per share	\$ 0.02	\$ (0.36)	\$ (1.22)

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Notes Receivable from Stockholders — The notes receivable from stockholders are full recourse notes issued in exchange for common stock. Notes outstanding at December 31, 2002 and 2001, bear interest at rates ranging from 4.46% to 7.75% per annum. The notes are generally payable over periods of two to four years.

Revenue Recognition — The Company derives revenue from two sources: Design-to-Silicon-Yield solutions and gain share. The Company recognizes revenue in accordance with the provisions of American Institute of Certified Public Accountants Statement of Position ("SOP") 97-2, *Software Revenue Recognition*, as amended, and SOP 81-1, *Accounting for Performance of Construction-Type and Certain Production-Type Contracts*.

Design-to-Silicon-Yield Solutions — Design-to-silicon-yield solutions revenue is derived from solution implementations, software licenses and software support and maintenance. Revenue recognition for each element of Design-to-Silicon-Yield solutions is summarized as follows:

Solution Implementations — The Company's solution implementations generate a significant portion of revenue from fixed-price contracts delivered over a specific period of time. These contracts require the accurate estimation of the cost to perform obligations and the overall scope of each engagement. Revenue under contracts for solution implementation services is recognized as the services are performed using the cost-to-cost percentage of completion method of contract accounting. Losses on solution implementation contracts are recognized when determined. Revisions in profit estimates are reflected in the period in which the conditions that require the revision become known and can be estimated. If the Company does not accurately estimate the resources required or the scope of work to be performed, or does not manage the projects properly within the planned period of time or satisfy its obligations under contracts, resulting contract margins could be materially different than those anticipated when the contract was executed. Any such reductions in contract margin could have a material negative impact on the Company's operating results.

Software Licenses — The Company has entered into a few multi-year time based licenses, generally three years. Revenue under arrangements which require the Company to provide support and maintenance over a period of time, where vendor-specific objective evidence of fair value does not exist to allocate a portion of the total fee to the undelivered elements, are recognized ratably over the term of the agreement. No revenue under arrangements with extended payment terms has been recognized in excess of amounts due.

Other license fees are recognized on the residual value method: (i) when an agreement has been signed, the software has been delivered, the license fee is fixed or determinable and collection of the fee is probable or (ii) as a component of a related solution implementation contract.

Software Support and Maintenance — Amounts allocated to undelivered support and maintenance are based on vendor specific objective evidence, generally negotiated renewal rates. Revenue from allocated support and maintenance and renewals is recognized ratably over the term of the support and maintenance contract, generally one year.

Gain Share — Gain share revenue represents profit sharing and performance incentives earned based upon the Company's customer reaching certain defined operational levels. Upon achieving such operational levels, the Company receives either a fixed fee and/or royalties based on the units manufactured by the customer. Due to the uncertainties surrounding attainment of such operational levels, the Company recognizes gain share revenue (to the extent of completion of the related solution implementation contract) upon receipt of performance reports or other related information from the customer supporting the determination of amounts and probability of collection. The Company's continued receipt of gain share revenue is dependent on many factors which are outside the Company's control, including amount others, continued production of the related integrated circuits (IC's) by the

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Company's customers, sustained yield improvements by the Company's customers and its ability to enter into new Design-to-Silicon-Yield solutions contracts containing gain share provisions.

Software Development Costs — Costs for the development of new software products and substantial enhancements to existing software products are expensed as incurred until technological feasibility has been established, at which time any additional costs would be capitalized in accordance with Statement of Financial Accounting Standards (SFAS) No. 86, *Computer Software to be Sold, Leased or Otherwise Marketed*. Because the Company believes its current process for developing software is essentially completed concurrently with the establishment of technological feasibility, no costs have been capitalized to date.

Research and Development — Research and development expenses are charged to operations as incurred.

Stock-Based Compensation — The Company accounts for stock-based compensation in accordance with the provisions of Accounting Principles Board Opinion No. 25 ("APB No. 25"), *Accounting for Stock Issued to Employees*, and complies with the disclosure provisions of Statement of Financial Accounting Standards No. 123 ("SFAS No. 123") as amended by SFAS 148, *Accounting for Stock-Based Compensation — Transition and Disclosures*. Deferred compensation recognized under APB No. 25 is amortized to expense using the graded vesting method. The Company accounts for stock options and warrants issued to non-employees in accordance with the provisions of SFAS No. 123 and Emerging Issues Task Force No. 96-18 under the fair value based method.

The Company adopted the disclosure-only provisions of SFAS 123, and accordingly, no expense has been recognized for options granted to employees under the various Plans. The Company amortizes deferred stock-based compensation on the graded vesting method over the vesting periods of the applicable stock purchase rights and stock options, generally four years. The graded vesting method provides for vesting of portions of the overall awards at interim dates and results in greater vesting in earlier years than the straight-line method. Had compensation expense been determined based on the fair value at the grant date for awards, consistent with the provisions of SFAS 123, the Company's pro forma net loss and net loss per share would be as follows (in thousands, except per share data):

	December 31,		
	2002	2001	2000
Net income (loss) as reported:	\$ 524	\$(5,491)	\$(9,097)
Add: stock-based employee compensation expense included in reported net income (loss) under APB 25	2,711	7,113	6,642
Deduct: total stock based compensation determined under fair value based method for all awards, net of related tax effects	(11,136)	(9,730)	(6,374)
Pro forma net loss	<u>\$ (7,901)</u>	<u>\$(8,108)</u>	<u>\$(8,829)</u>
Basic and diluted net income (loss) per share:			
As reported	<u>\$ 0.02</u>	<u>\$ (0.38)</u>	<u>\$ (1.24)</u>
Pro forma	<u>\$ (0.36)</u>	<u>(0.56)</u>	<u>(1.20)</u>

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The weighted average fair value of the Company's stock-based awards to employees under the above plans was estimated using the minimum value method through July 26, 2001 and from then forward using the Black-Scholes option pricing model with the following weighted average assumptions as of December 31:

	Stock Plans			Employee Stock Purchase Plan	
	2002	2001	2000	2002	2001
Estimated life (in years)	5.5	5.5	5.5	.5	.5
Volatility	79.7%	66.6%	—	80.0%	66.6%
Risk-free interest rate	4.14%	4.7%	6.7%	2.6%	3.5%
Expected dividend	—	—	—	—	—

Net Income (Loss) per Share — Basic net income (loss) per share excludes dilution and is computed by dividing net income (loss) attributable to common stockholders by the weighted average common shares outstanding for the period (excluding shares subject to repurchase). Diluted net income (loss) per share reflects the weighted average common shares outstanding plus the potential effect of dilutive securities which are convertible into common shares (using the treasury stock method), except in cases which the effect would be anti-dilutive.

Foreign Currency Translation — The functional currency of the Company's foreign subsidiaries is the local currency for the respective subsidiary. The assets and liabilities are translated at the period-end exchange rate, and statements of operations are translated at the average exchange rate during the year. Gains and losses resulting from foreign currency translations are included as a component of other comprehensive income.

Comprehensive Income (Loss) — Statement of Financial Accounting Standards (SFAS) No. 130, *Reporting Comprehensive Income*, requires that an enterprise report, by major components and as a single total, the change in its net assets during the period from nonowner sources. Comprehensive income (loss) is presented within the statement of stockholders' equity (deficiency). Accumulated other comprehensive income (loss) at December 31, 2002 and 2001 is comprised entirely of cumulative translation adjustments.

Fair Value of Financial Instruments — The carrying amounts of the Company's financial instruments, including cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate fair value because of their short maturities. The carrying amounts of the Company's capital lease obligations approximate the fair value of such instruments based upon management's best estimate of interest rates that would be available to the Company for similar debt obligations at December 31, 2002.

Recently Issued Accounting Standards — In July 2002, the Financial Accounting Standards Board ("FASB") issued Statements of Financial Accounting Standards ("SFAS") No. 146, "Accounting for Costs Associated with Exit or Disposal Activities." SFAS 146 addresses financial accounting and reporting for costs associated with exit or disposal activities and nullifies Emerging Issues Task Force ("EITF") Issue No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity (Including Certain Costs Incurred in a Restructuring)" and must be applied beginning January 1, 2003. SFAS 146 requires that a liability for a cost associated with an exit or disposal activity be recognized when the liability is incurred rather than when the exit or disposal plan is approved. The Company does not expect that the adoption of SFAS 146 will have an effect on our consolidated financial statements. The Company will adopt the provisions of SFAS 146 for exit and disposal activities that are initiated after December 31, 2002, as required by the standard.

In November 2002, the FASB issued FASB Interpretation No. 45, "Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others" ("FIN 45"). FIN 45 requires companies to recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. Guarantees in existence at December 31, 2002 are

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

grandfathered for the purposes of recognition and would only need to be disclosed. The Company does not expect that the adoption of FIN 45 will have an effect on its consolidated financial statements. The Company will adopt the initial recognition and measurement provisions of FIN 45 for guarantees issued or modified after December 31, 2002.

In December 2002, the EITF reached a consensus on EITF 00-21, "Revenue Arrangements with Multiple Deliverables". This issue addresses certain aspects of the accounting by a vendor for arrangements under which it will perform multiple revenue-generating activities. In some arrangements, the different revenue-generating activities (deliverables) are sufficiently separable and there exists sufficient evidence of their fair values to separately account for some or all of the deliverables (that is, there are separate units of accounting). In other arrangements, some or all of the deliverables are not independently functional, or there is not sufficient evidence of their fair values to account for them separately. This issue addresses when and, if so, how an arrangement involving multiple deliverables should be divided into separate units of accounting. This issue does not change otherwise applicable revenue recognition criteria. The guidance in this issue is effective for revenue arrangements entered into in fiscal periods beginning after June 15, 2003. The Company does not expect that the adoption of EITF 00-21 will have a material effect on its consolidated financial statements.

In December 2002, the FASB issued SFAS 148, "Accounting for Stock-Based Compensation — Transition and Disclosure, an amendment to FASB Statement 123", SFAS 148 provides alternative methods of transition of voluntary change to the fair value based method of accounting of stock-based employee compensation. In addition, SFAS 148 amends the disclosure requirements of SFAS 123, "Accounting for Stock-Based Compensation", to require prominent disclosures in both annual and interim financial statements about the method of accounting for stock-based employee compensation and the effect of the method used on reported results. The Company adopted the disclosure provisions of SFAS 148 effective December 31, 2002.

2. Business Combination

On April 27, 2000, the Company acquired all of the outstanding common stock of AISS, a German company, for \$1.25 million, consisting of \$995,000, in notes payable which bore interest at 7% per annum and \$255,000 in cash. AISS develops software and provides yield management services to the semiconductor industry. The note was paid off in fiscal 2001.

The acquisition was accounted for using the purchase method and the operating results of AISS have been included in the consolidated statements of operations since the date of acquisition. The excess purchase price (including costs of acquisition) over the fair value of the tangible assets and liabilities assumed, totaled \$2.0 million and represents acquired technology, employee workforce and goodwill which was being amortized on a straight line basis over a period of four years. Amortization expense totaled \$165,000 and \$501,000 for the years ended December 31, 2002 and 2001, respectively. Upon adoption of SFAS 142 on January 1, 2002, the Company ceased amortization of goodwill with a carrying value of \$784,000 at December 31, 2001, resulting in a reduction in annual amortization expense of \$336,000.

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The fair value of the assets acquired and liabilities assumed were as follows (in thousands):

Cash	\$ 30
Accounts receivable	386
Other assets	27
Property and equipment	46
Acquired technology	662
Employee workforce	540
Goodwill	807
Accrued acquisition cost	(113)
Less liabilities assumed	(509)
Deferred tax liability	(626)
	\$1,250

Had the acquisition taken place at the beginning of fiscal 2000, the unaudited pro forma results of operations would have been as follows for the years ended December 31, 2000 (in thousands, except per share data):

	2000
	(Unaudited)
Net revenues	\$ 20,457
Net loss	(9,131)
Net loss per share — basic and diluted	(1.24)

The unaudited pro forma results of operations give effect to certain adjustments, including amortization of purchased intangibles and goodwill, interest charges on the note issued in connection with the acquisition, and the elimination of sales between the Company and AISS.

The unaudited pro forma amounts are based on certain assumptions and estimates and do not necessarily represent results which would have occurred if the acquisition had taken place on the basis assumed above, nor are they indicative of results of future combined operations.

3. Property and Equipment

Property and equipment consist of:

	December 31,	
	2002	2001
	(In Thousands)	
Computer equipment	\$ 4,844	\$ 2,557
Software	1,670	1,254
Furniture, fixtures, and equipment	662	509
Leasehold improvements	25	6
	7,201	4,326
Accumulated depreciation	(3,668)	(2,147)
	\$ 3,533	\$ 2,179

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

4. Other Accrued Liabilities

Other accrued liabilities consist of:

	2002	2001
	(In Thousands)	
Accrued commissions	\$ 739	\$ 724
Other accrued expenses	913	1,102
	<u> </u>	<u> </u>
Total other accrued expenses	\$1,652	\$1,826
	<u> </u>	<u> </u>

5. Lease Commitments

Equipment with a net book value of \$34,000 and \$53,000, at December 31, 2002 and 2001, respectively (net of accumulated amortization of \$59,000 and \$40,000), has been leased under capital leases which expire in 2004. The Company leases administrative and sales offices and other equipment under noncancelable operating leases which contain various renewal options and require payment of common area costs, taxes and utilities, when applicable. These operating leases expire from 2003 to 2007.

Future minimum lease payments under capital and noncancelable operating leases at December 31, 2002 are as follows:

Year Ending December 31,	Capital Leases	Operating Leases
	(In Thousands)	
2003	\$ 19	\$ 1,759
2004	15	1,240
2005	—	494
2006	—	450
2007	—	440
Thereafter	—	1,698
	<u> </u>	<u> </u>
Total future minimum lease payments	34	\$ 6,081
	<u> </u>	<u> </u>
Less amount representing interest (ranging from 7.32% to 9.25%)	(2)	
	<u> </u>	
Present value of future minimum lease payments	32	
Less current portion	(17)	
	<u> </u>	
Long-term portion	\$ 15	
	<u> </u>	

Rent expense was \$2.6 million, \$1.8 million and \$906,000 in fiscal years 2002, 2001 and 2000, respectively.

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

6. Borrowing Arrangements**Long-term Debt**

Long-term debt consists of:

	December 31,	
	2002	2001
	(In Thousands)	
Term debt (interest at 6.4%)	\$ 0	\$ 8
Capital leases (see Note 5)	32	47
	—	—
Total	32	55
Current portion	(17)	(24)
	—	—
Long-term portion	\$ 15	\$ 31

7. Stockholders Equity

Stock Split — On July 6, 2001 the Company amended and restated its articles of incorporation to effect a two-for-three reverse stock split of the Company's common and preferred stock. All share and per share amounts reflected in the consolidated financial statements have been restated to give effect to the two-for-three reverse stock split.

Initial Public Offering and Concurrent Private Placement — On July 6, 2001 the Company amended and restated its articles of incorporation to provide for the automatic conversion of all outstanding Series A and Series B convertible preferred stock upon consummation of a public offering in which the Company receives proceeds equal to or greater than \$7,500,000; provided that in the event the public offering price was less than \$14.25 per share, the Series B preferred stock would be converted into an aggregate of 499,987 shares of common stock.

On July 26, 2001 the Company completed its initial public offering in which it sold 5,175,000 shares of its common stock. The net proceeds from the offering totaled \$56.5 million. Concurrent with this offering, the Company completed the private placement of 500,000 shares of its common stock to Applied Materials, Inc. Net proceeds of this concurrent private placement totaled \$5.9 million. Based on the initial public offering price of \$12 per share the Company's then outstanding Series A and Series B Convertible Preferred Stock were automatically converted into an aggregate of 6,333,318 shares of common stock and the company recorded a one-time dividend charge of \$1.6 million in the third quarter of 2001, representing the fair value of additional shares issued to the Series B convertible preferred stockholders in excess of the shares issuable pursuant to the original terms of the Series B convertible preferred stock.

Common Stock — Common stock issued to the founders and certain other employees are subject to repurchase agreements whereby the Company has the option to repurchase the unvested shares upon termination of employment at the original issue price. The Company's repurchase right generally lapses over four years. At December 31, 2002, 727,586 shares of common stock were subject to repurchase by the Company.

As of December 31, 2002 the Company has reserved 4,148,514 shares of common stock for issuance and exercise of options.

Stock Plans — During fiscal 2001, the Company terminated the 1996 and 1997 Stock Plans as to future option grants, and adopted the 2001 Stock Plan. Under the 2001 Stock Plan, on January 1 of each year, starting with year 2002, the number of shares in the reserve will automatically increase by the lesser of (i) 3,000,000 shares, (ii) 5% of the outstanding common stock on the last day of the immediately preceding

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

fiscal year, or (iii) the number of shares determined by the board of directors. As of January 1, 2002 the Company may grant up to 4,149,023 shares of common stock to employees, directors and consultants at prices not less than the fair market value at the date of grant for incentive stock options and not less than 85% of fair market value for nonstatutory stock options. As of December 31, 2002, 1,673,744 shares were available for grant. These options generally expire ten years from the date of grant and become vested and exercisable ratably over a four-year period. Certain option grants under the 1996 and 1997 Stock Plans provide for the immediate exercise by the optionee with the resulting shares issued subject to a right of repurchase by the Company which lapses based on the original vesting provisions.

At December 31, 2002 and 2001 there were no outstanding options which had been granted outside of the Plans.

Additional information with respect to options under the Plans, including options granted outside the Plans, is as follows:

	Number of Options	Weighted Average Exercise Price Per Share
Balance, January 1, 2000	1,400,679	\$ 0.20
Granted (weighted average fair value of \$7.16 per share)	2,647,019	2.73
Exercised	(3,440,070)	1.68
Canceled	(236,552)	0.39
Outstanding, December 31, 2000 (24,971 shares vested and exercisable at a weighted average exercise price of \$0.22 per share)	371,076	4.43
Granted (weighted average fair value of \$4.35 per share)	1,277,568	11.89
Exercised	(81,348)	6.88
Canceled	(56,293)	2.44
Outstanding, December 31, 2001 (157,234 shares vested and exercisable at a weighted average exercise price of \$6.56 per share)	1,511,003	10.68
Granted (weighted average fair value of \$6.43 per share)	2,118,925	9.84
Exercised	(30,716)	5.82
Canceled	(130,477)	10.70
Outstanding, December 31, 2002 (598,394 shares vested and exercisable at a weighted average exercise price of \$9.97 per share)	3,468,735	\$ 10.21

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Additional information regarding options outstanding as of December 31, 2002 is as follows:

Exercise Prices	Options Outstanding			Options Exercisable	
	Number Outstanding	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price Per Share	Number Vested And Exercisable	Weighted Average Exercise Price Per Share
\$ 0.06 - 0.06	5,560	4.6	\$ 0.06	5,560	\$ 0.06
\$ 0.15 - 0.15	4,332	5.6	\$ 0.15	4,332	\$ 0.15
\$ 0.38 - 0.53	733	6.4	\$ 0.45	733	\$ 0.45
\$ 1.50 - 1.88	69,831	7.4	\$ 1.70	44,758	\$ 1.70
\$ 3.00 - 3.00	16,666	7.5	\$ 3.00	10,416	\$ 3.00
\$ 4.95 - 7.00	803,376	9.4	\$ 5.45	69,233	\$ 5.79
\$ 7.50 - 11.20	1,478,604	8.9	\$ 10.67	346,351	\$ 10.87
\$11.85 - 16.62	1,059,633	9.1	\$ 13.70	109,511	\$ 14.13
\$19.00 - 19.00	30,000	9.0	\$ 19.00	7,500	\$ 19.00
	<u>3,468,735</u>	9.0	\$ 10.21	<u>598,394</u>	\$ 9.97

Employee Stock Purchase Plan — In July 2001, the Company adopted an Employee Stock Purchase Plan, or Purchase Plan, under which eligible employees can contribute up to 10% of their compensation, as defined in the Purchase Plan, towards the purchase of shares of PDF common stock at a price of 85% of the lower of the fair market value at the beginning of the offering period or the end of each six-month offering period. Under the Purchase Plan, on January 1 of each year, starting with year 2002, the number of shares reserved for issuance will automatically increase by the lesser of (i) 675,000 shares, (ii) 2% of the Company's outstanding common stock on the last day of the immediately preceding fiscal year, or (iii) the number of shares determined by the board of directors. As of January 1, 2002, 759,609 shares of the Company's common stock have been reserved for issuance under the employee stock purchase plan. During fiscal year 2002 and 2001, 230,212 and 55,702 shares were issued at a weighted average price of \$6.09 and \$10.20 per share and at December 31, 2002, 473,695 shares are available for future issuance under this plan. The weighted average estimated fair value of shares granted under the employee stock purchase plan during fiscal 2002 and 2001 was \$3.95 and \$3.66, respectively.

Common Stock Options

During the years ended December 31, 2000 and 1999 the Company granted nonstatutory options to consultants and advisory board members ("non-employees") to purchase 41,533 and 5,000 shares of common stock. These options had weighted average exercise prices of \$1.50 and \$0.39 per share, respectively, and vesting periods, which approximated the period of service, of immediately to one year. These options were originally valued at \$377,000 and \$2,000, respectively. The values attributable to these options have been amortized over the service period on a graded vesting method and the vested portion of these options were remeasured at each vesting date. During fiscal years 2002 and 2001, no options were issued to non-employees. No options related to non-employees were cancelled for the periods ended December 31, 2002 and 2001. During the year ended December 31, 2000, 117,293 non-employee options were cancelled.

During the year ended December 31, 2000, the Company issued 2,605,486 common stock options to employees at a weighted average exercise price of \$2.73 per share. The weighted average exercise price was below the weighted average deemed fair value of \$9.89 per share. The cumulative deferred stock-based compensation with respect to these grants totaled \$18.7 million and is being amortized to expense on a graded vesting method over the four year vesting period of the options through September 2004. During the years

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

ended December 31, 2002, 2001 and 2000 the cancellation of 111,478, 68,073 and 17,333 of these common stock options resulted in the reversal of \$275,000, \$437,000 and \$145,000 of employee stock-based compensation.

During 2001, the Company accelerated the vesting on options to purchase 15,226 shares of common stock under a separation agreement with an original strike price of \$0.15 per share. This action resulted in a modification to the award resulting in a stock compensation charge of \$252,000.

Amortization of employee and non-employee stock-based compensation totaled \$2.7 million, \$7.4 million and \$7.3 million in 2002, 2001, and 2000, respectively.

Common Stock Warrants

During 1996, the Company issued warrants to purchase 200,000 shares of the Company's common stock at \$0.06 per share to acquire software from AISS. The warrants were originally valued at \$8,000. The value attributable to these warrants has been amortized over the vesting period of four years, which approximated the useful life of the software, and the vested portion of this warrant was remeasured at each vesting date. In connection with the acquisition of AISS on April 27, 2000, warrants to purchase 33,334 shares were cancelled. Non-employee options and warrants during the year ended December 31, 2000 were valued or revalued, respectively, using the Black-Scholes option pricing model with the following weighted average assumptions: contractual life of 10 years; risk free interest rates of 6.7%; volatility of 70%; and no dividends during the expected term. During fiscal year 2001 all deferred stock-based compensation related to non-employee options was expensed. No warrants were outstanding at December 31, 2002 and 2001.

Unvested non-employee options and warrants are as follows as of:

	Unvested Non-employee Options and Warrants	
	Number	Weighted Average Exercise Price Per Share
December 31, 2002	0	\$ 0.00
December 31, 2001	0	\$ 0.00
December 31, 2000	4,861	\$ 0.06

8. Net Income (Loss) Per Share

The following is a reconciliation of the numerators and denominators used in computing basic and diluted net income (loss) per share (in thousands except per share data):

	Years Ended December 31,		
	2002	2001	2000
Net income (loss)	\$ 524	\$ (3,872)	\$(9,097)
Preferred dividends	—	(1,619)	—
Net income (loss) attributable to common stockholders (numerator), basic and diluted	\$ 524	\$ (5,491)	\$(9,097)
Shares:			
Weighted average common shares outstanding	22,985	16,624	9,445
Weighted average common shares outstanding subject to repurchase	(1,023)	(2,199)	(2,089)

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Years Ended December 31,		
	2002	2001	2000
Shares used in computation — basic	21,962	14,425	7,356
Dilutive common equivalent shares:			
Weighted average common share outstanding subject to repurchase	1,023	—	—
Stock options	214	—	—
Shares used in computation — diluted	23,199	14,425	7,356
Net income (loss) per share — basic and diluted	\$ 0.02	\$ (0.38)	\$ (1.24)

For the above mentioned periods, the Company had securities outstanding which could potentially dilute basic earnings per share in the future, but were excluded in the computation of diluted net loss per share in the periods presented, as their effect would have been anti-dilutive. Such outstanding securities consist of the following (in thousands):

	Years Ended December 31,		
	2002	2001	2000
Convertible preferred stock	—	—	5,977
Shares of common stock subject to repurchase	—	2,199	2,089
Outstanding options	—	800	457
Warrants	—	—	64

Options to purchase 2,568,237 shares of common stock at weighted-average prices of \$12.02 per share were outstanding during 2002, but were not included in the computation of diluted net income per common share because the exercise price of the options was greater than the average market price of the common shares and, therefore, the effect would be antidilutive.

9. Tax Provision

	Year Ended December 31,		
	2002	2001	2000
	(In Thousands)		
U.S.			
Current	1,980	\$ 280	\$ 313
Deferred	(528)	(2,280)	—
Foreign			
Current	44	177	55
Withholding	100	100	100
Deferred	(143)	(117)	(105)
Total provision (benefit)	\$1,453	\$(1,840)	\$ 363

During fiscal 2002, 2001 and 2000, respectively, income (loss) before taxes was \$1.9 million, (\$6.2 million) and (\$8.8 million) from U.S. operations and income from foreign operations was \$109,000, \$451,000 and \$38,000, respectively.

Deferred income taxes reflect the tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as net operating loss and tax credit carryforwards.

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The components of the net deferred tax assets (liability) is comprised of (in thousands):

	December 31,		
	2002	2001	2000
Net operating loss carryforward	\$ —	\$ —	\$ —
Research and development credit carryforward	725	759	63
Foreign tax credit carryforward	—	82	544
Accruals deductible in different periods	1,755	1,201	1,078
Stock-based compensation	328	328	324
Valuation allowance	—	—	(2,009)
Deferred tax assets	2,808	2,370	—
Intangible assets	(85)	(505)	(532)
	<u>\$2,723</u>	<u>\$1,865</u>	<u>\$ (532)</u>

The Company had established a valuation allowance against certain deferred tax assets due to the uncertainty surrounding the realization of such assets. Annually, management evaluates the recoverability of the deferred tax assets and the level of the valuation allowance. During the fourth quarter of 2001, it was determined that a deferred tax asset valuation allowance was no longer necessary based on evaluation of current evidence and their effect on our estimate of future earnings. Accordingly, the Company reversed its deferred tax valuation allowance of \$2.1 million in the fourth quarter of fiscal 2001.

The amount of income tax recorded differs from the amount using the statutory federal income tax rate (35%) for the following reasons (in thousands):

	December 31,		
	2002	2001	2000
Federal statutory tax provision (benefit)	\$ 692	\$(1,989)	\$(3,057)
State tax expense	1	1	1
Stock compensation expense	961	2,578	2,316
Offering costs	170	—	440
Meals and entertainment	7	6	4
Tax credits	(275)	(531)	(751)
Foreign tax, net	21	177	83
Valuation allowances	—	(2,050)	1,335
Other	(124)	(32)	(8)
Total	<u>\$1,453</u>	<u>\$(1,840)</u>	<u>\$ 363</u>

At December 31, 2002, the Company had federal and state research and experimental tax credit carryforwards of \$39,000 and \$1,055,000, respectively. The federal credits expire in 2022, while the state credits have no expiration. The extent to which the credit carryforwards can be used to offset future tax liabilities, respectively, may be limited, depending on the extent of ownership changes within any three-year period as provided in the Tax Reform Act of 1986 and the California Conformity Act of 1987.

Undistributed earnings of the Company's foreign subsidiaries of \$638,000 are considered to be indefinitely reinvested and accordingly, no provision for federal and state income taxes has been provided thereon.

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

10. Customer and Geographic Information

The Company operates in one segment. The Company had revenues from individual customers in excess of 10% of total revenue as follows:

Customer	Years Ended December 31,		
	2002	2001	2000
A	25%	34%	32%
C	17%	9%	27%
D	—	4%	15%
E	—	3%	10%
G	22%	29%	6%

The Company had accounts receivable from individual customers in excess of 10% of gross accounts receivable as follows:

Customer	December 31,	
	2002	2001
A	31%	37%
C	11%	5%
D	—	—
E	—	—
F	19%	23%
G	—	11%
K	11%	—

Revenue from customers by geographic area are as follows (in thousands):

	Years Ended December 31,		
	2002	2001	2000
Japan	30,969	28,206	13,864
United States	5,784	5,123	6,685
Europe	6,972	3,519	721

As of December 31, 2002 and 2001 long-lived assets related to AISS, located in Germany, totaled \$1.1 million and \$1.4 million, respectively, of which \$882,000 and \$1.2 million relates to acquired intangibles (see Note 2). The majority of the Company's remaining long-lived assets are in the United States.

11. Litigation

In May 2001 the Company was named as a defendant in a lawsuit claiming, among other things, that it misappropriated trade secrets in connection with hiring an employee. This litigation was settled by all parties in the second quarter of 2002. All expenses related to the lawsuit have been reflected in the consolidated financial statements in 2002.

12. Employee Benefit Plan

During 1999, the Company established a 401(k) tax-deferred savings plan, whereby eligible employees may contribute up to 15% of their eligible compensation with a maximum amount subject to IRS guidelines in any calendar year. Company contributions are discretionary; no such Company contributions have been made since inception of this plan.

PDF SOLUTIONS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

13. Subsequent Events

In February 2003, the Board of Directors authorized a stock repurchase program to acquire outstanding common stock of the Company in the open market or negotiated transactions. Under the program, up to \$10 million of the Company's common stock may be repurchased.

14. Selected Quarterly Financial Data (Unaudited)

	Year Ended December 31, 2002			
	Q1	Q2	Q3	Q4
Total revenue	\$11,457	\$12,236	\$11,037	\$ 8,994
Total costs and expenses	\$10,396	\$11,458	\$10,950	\$10,492
Net income (loss)	\$ 580	\$ 565	\$ 185	\$ (806)
Net income (loss) per share:				
Basic	\$ 0.03	\$ 0.03	\$ 0.01	\$ (0.02)
Diluted	\$ 0.02	\$ 0.02	\$ 0.01	\$ (0.02)

	Year Ended December 31, 2001			
	Q1	Q2	Q3	Q4
Total revenue	\$ 7,868	\$ 8,744	\$ 9,549	\$10,687
Total costs and expenses	\$10,558	\$10,946	\$10,934	\$11,354
Net income (loss)	\$ (2,743)	\$ (2,152)	\$ (838)	\$ 1,861
Preferred dividend	\$ —	\$ —	\$ (1,619)	\$ —
Net income (loss) applicable to common stockholders	\$ (2,743)	\$ (2,152)	\$ (2,457)	\$ 1,861(1)
Net income (loss) per share:				
Basic	\$ (0.34)	\$ (0.25)	\$ (0.12)	\$ 0.09
Diluted	\$ (0.34)	\$ (0.25)	\$ (0.12)	\$ 0.08

- (1) During the fourth quarter of 2001, it was determined that a deferred tax asset valuation allowance was no longer necessary based on evaluation of current evidence and its effect on the Company's estimate of future earnings. Accordingly, the Company reversed its deferred tax valuation allowance of \$2.1 million in the fourth quarter.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PDF SOLUTIONS, INC.

By: /s/ JOHN K. KIBARIAN

John K. Kibarian
President and Chief Executive Officer

By: /s/ P. STEVEN MELMAN

P. Steven Melman
*Chief Financial Officer and Vice President,
Finance and Administration*

Date: March 26, 2003

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints John K. Kibarian and P. Steven Melman, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title
<hr/> <p>/s/ JOHN K. KIBARIAN</p> <hr/> <p>John K. Kibarian</p>	Director, President and Chief Executive Officer (Principal Executive Officer)
<hr/> <p>/s/ P. STEVEN MELMAN</p> <hr/> <p>P. Steven Melman</p>	Chief Financial Officer and Vice President, Finance and Administration (Principal Financial and Accounting Officer)
<hr/> <p>/s/ B.J. CASSIN</p> <hr/> <p>B.J. Cassin</p>	Director
<hr/> <p>/s/ LUCIO L. LANZA</p> <hr/> <p>Lucio L. Lanza</p>	Director
<hr/> <p>/s/ DONALD L. LUCAS</p> <hr/> <p>Donald L. Lucas</p>	Director
<hr/> <p>/s/ KIMON MICHAELS</p> <hr/> <p>Kimon Michaels</p>	Director

CERTIFICATIONS

I, John K. Kibarian, certify that:

1. I have reviewed this annual report on Form 10-K of PDF Solutions, Inc.;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
 - a) Designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
 - c) Presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - a) All significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

/s/ JOHN K. KIBARIAN

John K. Kibarian
President and Chief Executive Officer
(Principal Executive Officer)

Date: March 26, 2003

[Table of Contents](#)

I, P. Steven Melman, certify that:

1. I have reviewed this annual report on Form 10-K of PDF Solutions, Inc.;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
 - a) Designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
 - c) Presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - a) All significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

/s/ P. STEVEN MELMAN

P. Steven Melman
Chief Financial Officer
(Principal Financial Officer)

Date: March 26, 2003

INDEPENDENT AUDITORS' REPORT

To the Board of Directors and Stockholders of

PDF Solutions, Inc.

We have audited the consolidated financial statements of PDF Solutions, Inc. and subsidiaries (collectively, the "Company") as of December 31, 2002 and 2001, and for each of the three years in the period ended December 31, 2002, and have issued our report thereon dated January 17, 2003 (February 19, 2003 as to Note 13) included elsewhere in this Annual Report on Form 10-K. Our audits also included the consolidated financial statement schedule listed in Item 14(a) of this Annual Report on Form 10-K. This consolidated financial statement schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audits. In our opinion, such consolidated financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ DELOITTE & TOUCHE LLP

San Jose, California

January 17, 2003

PDF SOLUTIONS, INC.

Valuation and Qualifying Account

(In Thousands)

	Balance at Beginning of Period	Charged to Costs and Expenses	Deductions/ Write-offs of Accounts	Balance at End of Period
Allowance for doubtful accounts				
December 31, 2002	\$ 292	\$ 212	\$ —	\$ 504
December 31, 2001	\$ 192	\$ 100	\$ —	\$ 292
December 31, 2000	\$ 144	\$ 48	\$ —	\$ 192

INDEX TO EXHIBITS

Exhibit Number	Description
3.1	Third Amended and Restated Certificate of Incorporation of PDF Solutions, Inc. **
3.2	Amended and Restated Bylaws of PDF Solutions, Inc. **
4.1	Specimen Stock Certificate.**
4.2	Second Amended and Restated Rights Agreement dated July 6, 2001.*
10.6	Technology Cooperation Agreement between PDF Solutions, Inc. and Toshiba Corporation.*†
10.7	Form of Indemnification Agreement between PDF Solutions, Inc. and each of its Officers and Directors.*†
10.8	1996 Stock Option Plan and related agreements. *
10.9	1997 Stock Plan and related agreements.*
10.10	2001 Stock Plan and related agreements.*
10.11	2001 Employee Stock Purchase Plan.*
10.12	Lease Agreement between PDF Solutions, Inc. and Metropolitan Life Insurance Company dated April 1, 1996.*
10.13	Credit Agreements between PDF Solutions, Inc. and Imperial Bank dated July 6, 1999 and August 12, 1999.*
10.14	Offer letter to P. Steven Melman dated July 9, 1998.*
10.15	Integration Technology Agreement between PDF Solutions, Inc. and Matsushita Electronics Corporation.*†
10.16	Software OEM License Agreement between PDF Solutions, Inc. and Cadence Design Systems, Inc.*†
10.17	Yield Improvement Agreement between PDF Solutions, Inc. and Toshiba Corporation.*†
10.18	Software Site License between PDF Solutions, Inc. and Toshiba Corporation.*†
10.19	Offer letter to Douglas Raymond dated August 23, 2002.
10.20	Change of Control Agreement dated as of August 23, 2002 between Registrant and Douglas Raymond.
10.21	Offer letter to Cornelius D. Hartgring dated August 29, 2002.
23.1	Independent Auditors' Consent.
99.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
99.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

* Incorporated by reference to PDF's Registration Statement on Form S-1, as amended (File No. 333-43192).

** Incorporated by reference to PDF's Report on Form 10-Q filed September 6, 2001 (File No. 000-31311).

† Portions of this Exhibit have been omitted pursuant to a request for confidential treatment.

August 16, 2002
Revised August 23, 2002

Douglas Raymond
14 Fay Memorial Drive
Tynsboro, MA 01879

Dear Doug:

On behalf of PDF Solutions, Inc. ("PDF" or "the Company"), I am very pleased to extend to you this offer of employment. Your position will be that of Executive Vice President, Client Services reporting to me. This offer of employment with PDF is conditioned upon your acceptance, in writing, of the terms and conditions as enumerated below.

1. Compensation. Commencing on your Start Date, you shall be paid a base salary of \$275,000 per annum, paid to you semi-monthly at a rate of \$11,458.34 per payroll period. Your salary shall be paid in accordance with the Company's standard payroll policies (subject to applicable withholding taxes as required by law).
 2. Stock Options. Upon commencement of your employment, and subject to the approval of the Company's Board of Directors, you will be granted an option to purchase 250,000 shares (the "Total Option Shares") of the Company's Common Stock with an exercise price equal to the fair market value of the Common Stock on the date of grant. Such option shall vest over a four year period commencing on your Start Date, according to the following vesting schedule: 1/4 of the Total Option Shares shall be exercisable on the twelve (12) month anniversary of your Start Date and 1/48th of the Total Option Shares shall be exercisable on a monthly basis thereafter. Vesting of the options shall be contingent upon your continued employment with the Company. The options will be incentive stock options (ISO) to the maximum extent permitted by the tax code and will be subject to the terms of the Company's 1997 Stock Plan and execution of an applicable Stock Option Agreement to be entered into between you and the Company.
 3. Sign-on Bonus. Within thirty (30) days of your commencement of employment with the Company you will receive a one time sign-on bonus of \$25,000 (subject to applicable withholding taxes as required by law). In the event that you voluntarily terminate your employment with the Company before the one (1) year anniversary of receipt of the bonus, you agree to repay the Company 100% of the applicable sign-on bonus. Upon such termination, should you not take appropriate action to fully repay the sign-on bonus, you hereby authorize the company to withhold amounts equal to such bonus from any cash compensation owed by the company to you, including, but not limited to, base salary, accrued vacation, or earned bonuses.
 4. Start Date. Subject to fulfillment of any conditions imposed by this letter agreement, you will commence your new position with the Company on October, 1 2002.
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5. General Duties. During the term of your employment, you agree that at all times and to the best of your ability you will loyally and conscientiously perform all of the duties and obligations required of you in your job and by the Company. You further agree that you will not render commercial or professional services of any nature to any person or organization, whether or not for compensation, without the prior written consent of the Company, and that you will not directly or indirectly engage in or participate in any business that is competitive in any manner with the business of the Company. You also agree to comply with any and all policies of the Company as in effect from time to time.
 6. Relocation Expenses: In connection with your relocation to San Jose, California the Company will cover the following customary and

reasonable expenses: Realtor fees and closing costs in connection with the sale of your home in Massachusetts; two (2) house-hunting trips for your spouse; relocation of household goods and two (2) vehicles; and customary buyer's closing costs on a primary residence in the San Jose area. These payments will be grossed up to cover required taxes and withholdings. In the event that you voluntarily terminate your employment with the Company before the one (1) year anniversary of your Start Date, you agree to repay the Company 100% of the relocation expenses provided for you. Upon such termination, should you not take appropriate action to fully repay the relocation expenses, you hereby authorize the Company to withhold amounts equal to such costs from any cash compensation owed by the Company to you, including, but not limited to, base salary, accrued vacation, or earned bonuses.

7. Temporary Living Expenses. The Company will provide up to twelve (12) months of temporary living expenses during your first twelve (12) months as an employee of PDF. This will include an executive apartment and car rental when you are in San Jose. The Company will pay for return trips to your home in Massachusetts every two weeks until your move is complete, or up to twelve months, whichever occurs first.
8. Proof of Right to Work. In compliance with federal immigration laws, you will be required to provide to the Company documentary evidence of your identity and eligibility for employment in the United States. Such documentation must be provided within three (3) business days of your date of hire. Your failure to meet this condition could result in termination of your employment with the Company.
9. Bonus. You shall be eligible to participate in Company sponsored incentive bonus plans that may (from time to time and at the sole discretion and option of the Company) be made available to PDF employees on a company wide basis. At the time of this offer, the Company sponsored incentive bonus plan target bonus for your position is 40% of annual salary. The structure of such plans and the amount of any bonus awarded under such plans shall be in alignment with the objectives of the official Company annual business plan for any year in question. Any bonus awarded under such incentive plans during your first year of employment with the Company shall be prorated for your length of service.
10. Benefits. Effective on your Start Date, the Company will make available to you the regular health insurance program and other benefits as established by the Company for its employees from time to time. A summary of those benefits, including Paid Time Off and Sabbatical is attached. Also, you will be eligible for upgradable tickets when traveling on Company business.

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11. Change of Control. The Company's agreement with you, should there be a change of control within five years of the commencement with the Company, is set forth in the Company's Change of Control Agreement, a copy of which is enclosed for your review. An executed copy of the Change of Control Agreement must be delivered to the PDF Human Resources Department on or before your Start Date.
12. Confidential Information and Invention Assignment Agreement. Your acceptance of this offer and commencement of employment with the Company is contingent upon your execution of the Company's Confidential Information and Invention Assignment Agreement (the "Confidentiality Agreement"), a copy of which is enclosed for your review. An executed copy of the Confidentiality Agreement must be delivered to the PDF Human Resources Department on or before your Start Date. The Confidentiality Agreement relates to confidential information received in regards to the Company's business, technology, and intellectual property, as well as information about the Company's customers. The Confidentiality Agreement also addresses the Company's ownership of intellectual property generated during your employment at the Company. You are required, to the best of your ability, to hold such information as confidential even after an event terminating your employment with the Company.
13. Confidentiality of Terms. You agree to follow the Company's strict

policy that employees must not disclose, either directly or indirectly, any information, including any of the terms of this agreement, regarding salary, bonuses, or stock purchase or option allocations to any person, including other employees of the Company; provided, however, that you may discuss such terms with members of your immediate family and any legal, tax or accounting specialists who provide you with individual legal, tax or accounting advice.

We are all delighted to be able to extend you this offer and look forward to working with you. To indicate your acceptance of this offer, please sign and date this letter in the space provided below and return it Becky Baybrook, Vice President, Human Resources, along with a signed and dated copy of the Confidentiality Agreement and Change of Control Agreement.

THIS OFFER EXPIRES ON AUGUST 26, 2002

Very truly yours,

PDF SOLUTIONS, INC.

By /s/ John Kibarian

John Kibarian
Chief Executive Officer

ACKNOWLEDGMENTS & ACCEPTANCE

I accept this employment offer with the understanding that it is not a contract for a fixed term or specified period of time. I understand that my employment is voluntary, ("At Will"), and can be terminated either by me or by the company at any time, with or without notice and with or without cause. The provisions stated

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above supersede all prior representations or agreements, whether written or oral. This offer letter may not be modified or amended except by a written agreement, signed by the company and me.

THE FOREGOING TERMS AND CONDITIONS ARE HEREBY AGREED TO AND ACCEPTED:

Signed: /s/ Douglas M. Raymond

Print Name: Douglas M. Raymond

Date: 8/27/2002

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CHANGE OF CONTROL AGREEMENT

This Agreement is made this 23 day of August, 2002 ("Effective Date") by and between Douglas Raymond (the "Executive") and PDF Solutions, Inc., a Delaware corporation (the "Company").

WHEREAS, the Executive will be employed by the Company; and

WHEREAS, the Company desires to retain the services of Executive in the event of a change of control (as hereinafter defined) of the Company.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto agree as follows:

1. Term. This Agreement shall commence as of Executive's Start Date (the "Effective Date") and shall continue in effect until the fifth anniversary of the Effective Date; provided that notwithstanding the foregoing the term of this Agreement shall not expire prior to the expiration of twelve (12) months after the occurrence of a Change of Control. The term of this Agreement may be extended only upon mutual written agreement of both parties.

2. Definitions.

(a) Change of Control. For purposes of this Agreement only, a "Change of Control" shall be defined as any of the following events:

(i) An acquisition (other than directly from the Company) of any voting securities of the Company (the "Voting Securities") by any "Person" (as the term is used for purposes of Section 13(d) or 14(d) of the Securities Exchange Act of 1934, as amended (the "1934 Act")) immediately after which such Person has "Beneficial Ownership" (within the meaning of Rule 13d-3 promulgated under the 1934 Act), directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the combined voting power of the Company's then outstanding Voting Securities;

(ii) A merger or consolidation in which the Company is not the surviving entity, except for (1) a transaction in which the principal purpose is to change the state of the Company's incorporation, or (2) a transaction in which the Company's stockholders immediately prior to such merger or consolidation hold (by virtue of securities received in exchange for their shares in the Company) securities of the surviving entity representing more than fifty percent (50%) of the total voting power of such entity immediately after such transaction;

(iii) The individuals who are members of the Company's Board of Directors (the "Board") as of the date this Agreement is approved by the Board (the "Incumbent

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Board") cease for any reason to constitute at least a majority of the Board; provided, however, that if the appointment, election or nomination for election by the Company's stockholders, of any new director is approved by a vote of at least two-thirds of the Incumbent Board, such new director shall, for purposes of this Agreement, be considered a member of the Incumbent Board; provided further, however, that no individual shall be considered a member of the Incumbent Board if such individual initially assumed office as a result of either an actual or threatened "Election Contest" (as described in Rule 14a-11 promulgated under the 1934 Act) or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board (a "Proxy Contest") including by reason of any agreement intended to avoid or settle any Election Contest or Proxy Contest;

(iv) The sale, transfer or other disposition of all or substantially all of the assets of the Company, unless the Company's stockholders immediately prior to such sale, transfer or other disposition hold (by virtue of securities received in exchange for their shares in the Company) securities of the purchaser or other transferee representing more than fifty percent (50%) of the total voting power of such entity immediately after such

transaction; or

(v) Any reverse merger in which the Company is the surviving entity but in which the Company's stockholders immediately prior to such merger do not hold (by virtue of their shares in the Company held immediately prior to such transaction) securities of the Company representing more than fifty percent (50%) of the total voting power of the Company immediately after such transaction.

(b) Cause. For purposes of this Agreement only, the Company shall have "Cause" to immediately terminate the Executive's employment hereunder if (i) Executive engages in fraud or embezzlement against the Company and/or its subsidiaries, (ii) Executive misappropriates Company property, proprietary information and/or trade secrets, (iii) Executive demonstrates material unfitness for service or persistent deficiencies in performance, (iv) Executive engages in misconduct, which misconduct is demonstrably and materially injurious to the Company and/or its subsidiaries; (v) Executive refuses to follow a specific, lawful direction or order of the Company; (vi) Executive breaches any provision of this Agreement or other agreements between Executive and the Company; or (vii) Executive dies or becomes mentally or physically incapacitated and cannot carry out his duties.

(c) Voluntary Resignation for Good Reason. A voluntary resignation by Executive "Good Reason" shall mean a voluntary resignation by Executive following any one of the following events, provided Executive provides Company with at least two (2) weeks notice of such termination, and provides such notice no later than thirty (30) days following any one of the following events: (i) a material change in Executive's position, title, duties, or responsibilities, without Employee's consent, which results in a material reduction of Executive's level of responsibility, the assignment of duties and responsibilities which are materially inconsistent with Executive's position or responsibilities, or the removal of the Executive from or failure to reelect the Executive to any of such positions, except in connection with the termination of employment for Cause; (ii) a reduction by the Company in the Executive's annual salary then in effect, without

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Executive's consent, other than a reduction similar in percentage to a reduction generally applicable to similarly situated employees of the Company; (iii) a material reduction without the Executive's consent in the kind or level of benefits provided to Executive under any benefit plan of the Company in which the Executive is participating or deprive the Executive of any material fringe benefit enjoyed by the Executive, except those changes generally affecting similarly situated employees of the Company; or (iv) a relocation of Executive without his consent to a facility or a location more than 75 miles from Executive's then current workplace.

(d) Closing Date. "Closing Date" shall mean the date of the first closing of any transactions constituting a Change of Control.

(e) Termination Date. "Termination Date" shall mean the date the Executive's employment is terminated by the Company other than for Cause or is terminated by the Executive for Good Reason.

(f) Company. "Company" shall mean PDF Solutions, Inc. and its successors or assigns (including without limitation, any entity, entities or persons acquiring control of the Company through a Change of Control).

(g) Date of Hire. "Date of Hire" shall mean the date Executive commences full-time employment with the Company.

3. Termination of Employment For Cause or By Executive Without Good Reason. If, following the Closing Date of a Change of Control, the Company terminates the Executive's employment for Cause or Executive voluntarily resigns from employment without Good Reason, Executive shall be entitled to all compensation due and owing to him through the date his employment terminates, and the Company's obligations hereunder shall cease.

4. Termination of Employment Within Six Months Following a Change of Control. If, following the Closing Date of a Change of Control, the Company terminates the Executive's employment other than for Cause or if the Executive voluntarily resigns from employment for Good Reason and such termination or

resignation occurs within six (6) months following a Change of Control, then Executive shall be entitled to the following:

(a) If Executive's Termination Date is within one year of his Date of Hire, the restrictions on any outstanding equity incentive awards, including stock options and restricted stock, granted to the Executive under the Company's stock option and other stock incentive plans or under any other incentive plan or arrangement shall lapse such that the incentive award shall become 50% vested and, in the case of stock options, Company shall accelerate the vesting Executive's unvested stock options such that 50% of Executive's outstanding stock options shall be immediately exercisable; or

(b) If Executive's Termination Date is after the one year anniversary of his Date of Hire, but before the second anniversary of his Date of Hire, the restrictions on any

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outstanding equity incentive awards, including stock options and restricted stock, granted to the Executive under the Company's stock option and other stock incentive plans or under any other incentive plan or arrangement shall lapse such that the incentive award shall become 50% vested and, in the case of stock options, Company shall accelerate the vesting of up to 25% of Executive's unvested stock options such that a total of 50% of Executive's outstanding stock options shall be immediately exercisable; and

(c) Executive shall receive the severance benefits set forth in paragraphs 5(a) and (b) below.

5. Termination of Employment within Twelve Months Following a Change of Control. If, following the Closing Date of a Change of Control, the Company terminates the Executive's employment other than for Cause or the Executive voluntarily resigns from employment for Good Reason and such termination or resignation does not occur within six (6) months following the Closing Date of a Change of Control but occurs within twelve (12) months following the Closing Date of a Change of Control, then in such event:

(a) Severance Payment. The Company shall pay the Executive a severance payment equal to seven (7) months' pay at Executive's base salary in effect as of the Termination Date. Such severance payment shall be made in the form of a lump sum payment (less applicable withholdings and deductions) within 30 days of Executive Termination Date or in the form of salary continuation for a period of seven (7) months following the Termination Date, at the Company's discretion; and

(b) Medical and Dental Benefits. The Company shall reimburse the Executive for COBRA payments made by the Executive to maintain his medical, vision, and dental benefits for a period of up to seven (7) months following the Termination Date.

(c) Executive shall not be entitled to receive any other severance benefits, including but not limited to the severance benefits described in paragraph 4(a) or 4(b), if he receives the benefits provided for in paragraphs 5(a) and (b).

6. No Employment Agreement, Employment at Will. Executive and the Company each acknowledge and agree that: (i) this Agreement does not provide for the terms and conditions of Executive's employment with the Company prior to any Change of Control and does not require or obligate Executive to provide services to the Company or the Company to continue to employ Executive; and (ii) Executive's employment with the Company is and remains an employment relationship terminable at will and without advance notice by either Executive or the Company.

7. Release of the Company and Its Affiliates. Executive's receipt of the benefits described in paragraph 4 or paragraph 5 above shall be contingent upon Executive executing a general release of claims in a commercially customary form prescribed by the Company, which releases and discharges the Company and any past, present or future agents, attorneys, directors, officers, stockholders, employees, affiliates, predecessors and successors of the Company, of and

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from any and all claims and demands of every kind and nature, in law, equity or otherwise, known or unknown, disclosed or undisclosed, and a covenant not to sue or prosecute any legal action or proceeding based upon such claims.

8. Excise Tax. Notwithstanding anything contained in this Agreement to the contrary, to the extent that any payment or benefit (within the meaning of Section 280G(b)(2) of the Internal Revenue Code of 1986, as amended (the "Code")) to Executive or for Executive's benefit, paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise in connection with, or arising out of, Executive's employment with the Company or a Change in Control (a "Payment" or "Payments"), would be subject to the excise tax imposed under Code Section 4999, or any interest or penalties are incurred by Executive with respect to such excise tax (such excise tax, together with any such interest and penalties, are hereinafter collectively referred to as the "Excise Tax"), the Payments shall be reduced (but not below zero) if and to the extent necessary so that no Payment to be made or benefit to be provided to Executive shall be subject to the Excise Tax (such reduced amount is hereinafter referred to as the "Limited Payment Amount"). Any notice given by Executive pursuant to the preceding sentence shall take precedence over the provisions of any other plan, arrangement or agreement governing Executive's rights and entitlements to any benefits or compensation.

(a) An initial determination as to whether the Payments shall be reduced to the Limited Payment Amount and the amount of such Limited Payment Amount shall be made, at the Company's expense, by the accounting firm that is the Company's independent accounting firm as of the date of the Change in Control (the "Accounting Firm"). The Accounting Firm shall provide its determination (the "Determination"), together with detailed supporting calculations and documentation, to the Company and Executive within five (5) days after the Termination Date, if applicable, or such other time as requested by the Company or by Executive (provided Executive reasonably believes that any of the Payments may be subject to the Excise Tax) and, if the Accounting Firm determines that no Excise Tax is payable by Executive with respect to a Payment or Payments, it shall furnish Executive with an opinion reasonably acceptable to Executive that no Excise Tax will be imposed with respect to any such Payment or Payments. Within ten (10) days after the delivery of the Determination to Executive, Executive shall have the right to dispute the Determination (the "Dispute"). If there is no Dispute, the Determination shall be binding, final and conclusive upon the Company and Executive, subject to the application of Section 8(b) below.

(b) As a result of the uncertainty in the application of Sections 4999 and 280G of the Code, it is possible that the Payments to be made to, or provided for the benefit of, Executive will be either greater (an "Excess Payment") or less (an "Underpayment") than the amounts provided for by the limitations contained in Section 8.

(i) If it is established, pursuant to a final determination of a court or an Internal Revenue Service (the "IRS") proceeding which has been finally and conclusively resolved, that an Excess Payment has been made, such Excess Payment shall be deemed for all purposes to be a loan to Executive made on the date Executive received the Excess Payment, which loan Executive must repay to the Company together with interest at the applicable federal rate under

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Code Section 7872(f)(2); provided, that no loan shall be deemed to have been made and no amount will be payable by Executive to the Company unless, and only to the extent that, the deemed loan and payment would either reduce the amount on which Executive is subject to tax under Code Section 4999 or generate a refund of tax imposed under Code Section 4999.

9. In the event that it is determined (i) by the Accounting Firm, the Company (which shall include the position taken by the Company, or together with its consolidated group, on its federal income tax return) or the IRS, (ii) pursuant to a determination by a court, or (iii) upon the resolution to Executive's satisfaction of the Dispute, that an Underpayment has occurred, the Company shall pay an amount equal to the Underpayment to Executive within ten (10) days after such determination or resolution, together with interest on such

amount at the applicable federal rate under Code Section 7872(f)(2) from the date such amount would have been paid to Executive until the date of payment.

10. Exclusive Remedy. Executive's right to salary continuation and other severance benefits pursuant to paragraph 4 or paragraph 5 above shall be Executive's sole and exclusive remedy for any termination of Executive's employment by the Company other than for Cause or by Executive for Good Reason following a Change of Control. The payments, severance benefits and severance protections provided to Executive pursuant to this Agreement are provided in lieu of any severance payments, severance benefits and severance protections provided in any other plan or policy of the Company, except as may be expressly provided in writing under the terms of any plan or policy of the Company, or in a written agreement between the Company and Executive entered into after the date of this Agreement. Notwithstanding the foregoing, nothing in this Agreement shall prevent or limit Executive's continuing or future participation in any benefit, bonus, incentive or other plan or program provided by the Company (except for any severance or termination policies, plans, programs or practices) and for which Executive may qualify, nor shall anything herein limit or reduce such rights as Executive may have under any other agreements with the Company (except for any severance or termination agreement). Amounts which are vested benefits or which Executive is otherwise entitled to receive under any plan or program of the Company shall be payable in accordance with such plan or program, except as explicitly modified by this Agreement.

11. Arbitration. The parties hereby agree that any dispute, claim or controversy arising out of, relating to or in connection with this Agreement ("Arbitrable Claims") shall be determined exclusively by and through final and binding arbitration in Santa Clara County, California, each party hereto expressly and conclusively waiving its right to proceed to a judicial determination with respect to the merits of such arbitrable matters. Such arbitration shall be conducted in accordance with the American Arbitration Association National Rules for Resolution of Employment Disputes then in effect before a neutral and impartial arbitrator who shall be selected by mutual agreement of the parties. The arbitrator shall prepare a written decision containing the essential findings and conclusions on which the award is based so as to ensure meaningful judicial review of the decision. The arbitrator shall apply the same substantive law, with the same statutes of limitations and same remedies, that would apply if the claims were brought in a court of law.

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This Agreement shall be governed by the California Arbitration Act and the arbitrator, in ruling on procedural and substantive issues raised in the arbitration itself, shall apply the substantive law of the State of California. Either party may bring an action in court to compel arbitration under this Agreement and to enforce an arbitration award. Otherwise, neither party shall initiate or prosecute any lawsuit in any way related to any Arbitrable Claim. THE PARTIES HEREBY WAIVE ANY RIGHTS THEY MAY HAVE TO TRIAL BY JURY IN REGARD TO ARBITRABLE CLAIMS.

12. Successors. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and assigns. Neither this Agreement nor any right or interest hereunder shall be assignable or transferable by Executive or Executive's beneficiaries or legal representatives, except by will or by the laws of descent and distribution. This Agreement shall inure to the benefit of and be enforceable by Executive's legal personal representative.

13. Governing Law. The interpretation, performance and enforcement of this Agreement shall be governed by the laws of the State of California.

14. Entire Agreement. This Agreement represents the entire Agreement and understanding between the Company and the Executive concerning the Executive's termination of employment with the Company after a Change in Control. This Agreement supersedes any prior agreement or understanding of the parties with respect to the subject matter hereof.

15. No Oral Modification. This Agreement may only be amended in a writing signed by the Executive and the Company.

16. Severability. If any provision of this Agreement or the application thereof to any person, place, or circumstance, shall be held by a court of competent jurisdiction to be invalid, unenforceable, or void, the

remainder of this Agreement and such provisions as applied to other persons, places, and circumstances shall remain in full force and effect.

17. Counterparts. This Agreement may be executed in counterparts, and each counterpart shall have the same force and effect as the original and shall constitute an effective, binding agreement on the part of each of the undersigned.

18. Attorneys' Fees. If any legal action, arbitration or other proceeding is brought to interpret or enforce the terms of this Agreement, the prevailing party shall be entitled to recover reasonable attorneys' fees and any other costs incurred in that proceeding, in addition to any other relief to which it is entitled.

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IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the date first above written.

PDF SOLUTIONS, INC.

EXECUTIVE:

By: /s/ John Kibarian

/s/ Douglas M. Raymond

John Kibarian

8/27/2002

Title: Chief Executive Officer

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August 29, 2002

Cornelis D. Hartgring
1795 Woodhaven Place
Mountain View, CA 94041

Dear Ceas:

On behalf of PDF Solutions, Inc., ("PDF" or the "Company"), I am very pleased to extend to you this offer of employment. Your position will be that of Vice President of Sales reporting to David Joseph. This offer of employment with PDF is conditioned upon your acceptance, in writing, of the terms and conditions as enumerated below.

1. Salary. Commencing on your Start Date, you shall be paid a base salary of \$175,000.00 per annum, paid to you semi-monthly at a rate of \$7,291.67 per payroll period. Your salary shall be paid in accordance with the Company's standard payroll policies (subject to applicable withholding taxes as required by law).
2. Variable Compensation. You will be eligible for revenue-based variable compensation effective January 1, 2003. For fiscal year 2003 your target variable compensation will be \$200,000, paid semi-annually, based upon the following conditions:
 - a) \$100,000 of target variable compensation is contingent upon achievement of revenue in excess of PDF 2002 actual revenue. One hundred percent (100%) of target will be paid for achievement of the PDF fiscal 2003 revenue plan (the "Plan"), as presented and approved by the Board of Directors of PDF Solutions, Inc. in the beginning of the fiscal year. Actual payout will be prorated equally for achievement between the 2002 actual revenue and 100% of the 2003 Plan. For example, if actual 2002 revenue is \$50 million and the 2003 Plan is \$65 million then, each percentage point (or prorata for a fraction of a percentage point) above \$50 million is equal to \$6,666.66 in variable compensation (\$100,000/15).
 - b) \$100,000 of target variable compensation is contingent upon achievement of revenue in excess of 100% of Plan. Payout will be prorated equally over the first 10% in excess of 100% of Plan.

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- c) Variable compensation will be paid semi-annually as follows: For the first half of the fiscal year, a revenue goal ("1H FY03 Plan") and associated bonus target ("1H FY03 Bonus Target") will be set consistent with paragraphs a) and b) above. The projected earned bonus for the first half of fiscal year 2003 will be calculated based on achievement of the 1H FY03 Plan and the 1H FY03 Bonus Target. Sixty percent (60%) of the projected earned bonus will be paid mid-year, following the close of second quarter books. The second half payment will be equal to the earned annual bonus less the first half payment and will be paid following the close of the annual books.

Your variable compensation plan for fiscal years beginning January 1, 2004 will be mutually agreed upon at an appropriate time. This variable compensation plan and any future plans are in lieu of any other Company sponsored cash incentive plan that may be offered to employees on a company-wide basis from time-to-time.

3. Sign-on Bonus. You will receive a one-time sign-on bonus of \$25,000 (subject to applicable withholding taxes as required by law) on January 1, 2003 subject to your continued employment with PDF Solutions, Inc. In the event that you voluntarily terminate your employment with the Company before the one (1) year anniversary of receipt of the bonus, you agree to repay the Company 100% of the sign-on bonus. Upon such termination, should you not take appropriate action to fully repay the sign-on bonus, you hereby authorize the company to withhold amounts

equal to such bonus from any cash compensation owed by the company to you, including, but not limited to, base salary, accrued vacation, or earned bonuses.

4. Stock Options. Upon commencement of your employment, and subject to the approval of the Company's Board of Directors, you will be granted an option to purchase 200,000 shares (the "Total Option Shares") of the Company's Common Stock with an exercise price equal to the fair market value of the Common Stock on the date of grant. Such option shall vest over a four year period commencing on your Start Date, according to the following vesting schedule: 1/4 of the Total Option Shares shall be exercisable on the twelve (12) month anniversary of your Start Date and 1/48th of the Total Option Shares shall be exercisable on a monthly basis thereafter. Vesting of the options shall be contingent upon your continued employment with the Company. The options will be incentive stock options (ISO) to the maximum extent permitted by the tax code and will be subject to the terms of the Company's 2001 Stock Plan and execution of an applicable Stock Option Agreement to be entered into between you and the Company.

You will be subject to the standard PDF stock option agreement. There will be one amendment to this plan in the event there is a change of control of the company during your first two years of employment. For the purposes of your employment, "change of control" is defined as an event whereby a party or group

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of parties, different from those maintaining control today, attains a 55% voting right in the company. If there is a change of control of PDF during your first two years of employment, your vesting is accelerated by 12 months regardless of whether your employment is terminated. (Subject to approval of the Board of Directors at their next meeting.)

5. Start Date. Subject to fulfillment of any conditions imposed by this letter agreement, you will commence your new position with the Company on a date to be determined and agreed upon with the Company but no later than two weeks after you accept this offer. The date you actually start working at the Company is referred to as your "Start Date".
6. General Duties. During the term of your employment, you agree that at all times and to the best of your ability you will loyally and conscientiously perform all of the duties and obligations required of you in your job and by the Company. You further agree that you will not render commercial or professional services of any nature to any person or organization, whether or not for compensation, without the prior written consent of the Company, and that you will not directly or indirectly engage in or participate in any business that is competitive in any manner with the business of the Company. You also agree to comply with any and all policies of the Company as in effect from time to time.
7. Proof of Right to Work. In compliance with federal immigration laws, you will be required to provide to the Company documentary evidence of your identity and eligibility for employment in the United States. Such documentation must be provided within three (3) business days of your date of hire. Your failure to meet this condition could result in termination of your employment with the Company.
8. Benefits. Effective on your Start Date, the Company will make available to you the regular health insurance program and other benefits as established by the Company for its employees from time to time. A summary of those benefits, including Paid Time Off and Sabbatical is attached.
9. Confidential Information and Invention Assignment Agreement. Your acceptance of this offer and commencement of employment with the Company is contingent upon your execution of the Company's Confidential Information and Invention Assignment Agreement (the "Confidentiality Agreement"), a copy of which is enclosed for your review. An executed copy of the Confidentiality Agreement must be delivered to the PDF Human Resources Department on or before your Start Date. The Confidentiality Agreement relates to confidential information received

in regards to the Company's business, technology, and intellectual property, as well as information about the Company's customers. The Confidentiality Agreement also addresses the Company's ownership of intellectual property generated during your employment at the Company. You

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are required, to the best of your ability, to hold such information as confidential even after an event terminating your employment with the Company.

10. Confidentiality of Terms. You agree to follow the Company's strict policy that employees must not disclose, either directly or indirectly, any information, including any of the terms of this agreement, regarding salary, bonuses, or stock purchase or option allocations to any person, including other employees of the Company; provided, however, that you may discuss such terms with members of your immediate family and any legal, tax or accounting specialists who provide you with individual legal, tax or accounting advice.

We are all delighted to be able to extend you this offer and look forward to working with you. To indicate your acceptance of this offer, please sign and date this letter in the space provided below and return it Becky Baybrook, Vice President Human Resources, along with a signed and dated copy of the Confidentiality Agreement.

THIS OFFER EXPIRES ON SEPTEMBER 6, 2002.

Very truly yours,

PDF SOLUTIONS, INC.

By /s/ David Joseph

David Joseph
Executive Vice President,
Sales, Marketing and Business
Development

ACKNOWLEDGMENTS & ACCEPTANCE

I accept this employment offer with the understanding that it is not a contract for a fixed term or specified period of time. I understand that my employment is voluntary, ("At Will"), and can be terminated either by me or by the company at any time, with or without notice and with or without cause. The provisions stated above supersede all prior representations or agreements, whether written or oral. This offer letter may not be modified or amended except by a written agreement, signed by the company and me.

THE FOREGOING TERMS AND CONDITIONS
ARE HEREBY AGREED TO AND ACCEPTED:

Signed: /s/ Cornelis D. Hartgring

Print Name: Cornelis D. Hartgring

Date: 9/2/02

Anticipated Start Date: 9/3/02

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INDEPENDENT AUDITORS' CONSENT

We consent to the incorporation by reference in Registration Statement Nos. 333-66758 and 333-102509 on Form S-8 of PDF Solutions, Inc. of our reports dated January 17, 2003 (February 19, 2003 as to Note 13) appearing in this Annual Report on Form 10-K of PDF Solutions, Inc. for the year ended December 31, 2002.

/s/ DELOITTE & TOUCHE LLP

San Jose, California

March 21, 2003

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

In connection with the Annual Report of PDF Solutions, Inc. (the "Company") on Form 10-K for the year ended December 31, 2002, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John K. Kibarian, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

/s/ John K. Kibarian

John K. Kibarian
President and Chief Executive Officer
March 26, 2003

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

In connection with the Annual Report of PDF Solutions, Inc. (the "Company") on Form 10-K for the year ended December 31, 2002, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, P. Steven Melman, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

/s/ P. Steven Melman

P. Steven Melman
Chief Financial Officer

March 26, 2003