BITSTREAM INC
Form 10-K
March 31, 2003

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

ý **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

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

For the transition period from to

COMMISSION FILE NUMBER: 0-21541

BITSTREAM INC.

(Exact name of registrant as specified in its charter)

Delaware	**04-2744890**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

215 First Street, Cambridge, Massachusetts 02142-1270
(Address of principal executive offices)
Registrant's telephone number, including area code: (617) 497-6222

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act: Class A Common Stock

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 Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of the 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. o

The aggregate market value of voting stock held by non-affiliates of the Registrant as of March 14, 2003 was approximately $14.5 million.

On March 14, 2003, there were 8,475,125 shares of Class A Common Stock, par value $0.01 per share, of which 125,809 were designated as treasury shares and no shares of Class B Common Stock, par value $0.01 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement for the 2003 Annual Meeting of Stockholders, to be filed with the Securities and Exchange Commission, are incorporated by reference into Part III of this Annual Report on Form 10-K. Except with respect to information specifically incorporated by reference in this Form 10-K, the Proxy Statement is not deemed to be filed as part hereof.

INDEX

PART I

ITEM 1. BUSINESS

GENERAL

Bitstream Inc. ("Bitstream" or the "Company"), headquartered in Cambridge, Massachusetts, is composed of three separate and distinct businesses: (1) Type, in which Bitstream develops and licenses its ThunderHawk browser, which has been designed specifically for browsing on handheld devices using the Company's font technology to corporations, wireless carriers, and end users, and its font technology, fonts, and custom font designs to manufacturers of information appliances, wireless devices, set-top boxes, embedded systems, printers, and personal digital assistants; (2) MyFonts.com, a showcase of the world's fonts in one easy-to-use e-commerce Web site operated by Bitstream's wholly-owned subsidiary, MyFonts.com, Inc. ("MyFonts"); and (3) Pageflex, in which the Company's wholly-owned subsidiary Pageflex, Inc. ("Pageflex") develops, markets and supports personal and enterprise server-based composition software for customizing template-based designs from Web forms or Pageflex's .EDIT interactive WYSIWYG browser-based Webtop publishing software or databases.

Bitstream was founded in 1981 as the first independent digital typeface supplier to computer hardware and software developers. The Company's library of typeface products are used by original equipment manufacturers ("OEMs"), independent software vendors ("ISVs"), and end users around the world in the creation of electronic documents. The Company was also an early developer of font rendering software for hardware and software developers. Its font display technologies are used to provide font-scaling functionality to operating systems, applications, network servers, computer printers, set-top boxes, personal digital assistants (PDAs), and other embedded systems and information appliances. More recently, Bitstream has focused its product development and marketing efforts on developing a leading-edge browser for handheld devices named ThunderHawk . ThunderHawk gives users of small handheld devices complete wireless access to any Web page in a format that can be viewed easily without excessive scrolling or the use of repurposed content. The Company has also focused its efforts in the Type segment on technology solutions that address the font-related browsing issues of small embedded systems and information appliances, and Linux operating systems and applications. These include the development of extremely compact fonts for large Asian language character sets, including Traditional Chinese, Simplified Chinese, Japanese, and Korean.

In January 1999, the Company established Pageflex as a wholly-owned subsidiary for the purpose of developing, marketing and supporting on-demand marketing and composition solutions based on its NuDoc XML-based composition engine and related technology. Pageflex has developed Mpower , an enterprise solution that allows companies to dynamically create customized business documents, Persona , a variable data desktop publishing application designed to produce personalized documents, and .EDIT which is a java-browser-based interactive WYSIWYG composition software that presents the user with templates they can then customize. These templates are controlled by design rules and access permissions that leave the original designer with far greater control over the design and branding of the final result than with conventional Desktop publishing tools. These products are based on the NuDoc XML-based composition engine, which uses flexible design templates incorporating "spring-loaded" text and image containers that dynamically adjust page layouts based on the sizes and shapes of the variable text and images that flow into them. Text and image containers resize and reposition to automatically maintain the design integrity of each document. Built on open standards, Pageflex products import data from any ODBC-compliant database and use XML as the data format between databases and page composition.

In December 1999, MyFonts was founded as a wholly-owned subsidiary of Bitstream to provide the world's most complete source of digital fonts in a single comprehensive Web site. The MyFonts.com Web site provides one of the largest collections of fonts ever assembled for on-line delivery, and offers easy ways to find and purchase fonts on-line, unique typographic resources, and a forum for interacting with type graphics experts and peers. By hosting fonts from a wide variety of font foundries and designers, MyFonts aims to be the single choice for finding and purchasing fonts on the Web.

The markets in which the Company participates are intensely competitive, evolving and subject to rapid technological change. The Company expects competition to persist and to increase in the future. The Company believes that while it competes with no single organization across its entire product line, a variety of companies offer products that compete with some of its products. Certain of the Company's competitors

have greater name recognition, a larger customer base and significantly greater financial, technical, and marketing resources than the Company. Future sales of the Company's products will depend upon the Company's ability to develop or acquire, on a timely basis, new products or enhanced versions of its existing products that compete successfully with products offered by developers of competing technologies. There can be no assurance that the Company will be able to compete successfully against current or future competitors, or that competitive pressures faced by the Company will not materially adversely affect its business, financial condition and results of operations.

TYPE

INDUSTRY BACKGROUND

The rapid growth in the use of personal computers, advanced software applications and laser printers has dramatically transformed the document creation, production, and distribution process, giving rise to the widespread use of word processing and desktop publishing applications. Underlying the growth in word processing and desktop publishing were enabling technologies such as page description languages, printer control languages, and outline font technologies. Adobe's PostScript Type 1 format ("Type 1"), the original outline font technology, gained acceptance among graphic artists and the high-end electronic publishing market due to the technology's close links to high-resolution output devices used in service bureaus and publishing houses. TrueType was developed by Apple Computer, Inc. ("Apple"), as an alternative outline font technology to Type 1 and is integrated into the Windows and Macintosh operating systems.

The increased use of distributed client/server network architectures in the 1990s resulted in complex computing environments composed of mixed operating systems and multiple networking protocols. To create, transport, view, and print text-based digital information in such an environment, while preserving the appearance intended by the document's author, each individual computer must have specific font software and hardware drivers to display or print the document as the author intended. If a user's system did not have a particular font used by the author or attempted to output a document to a device that differs from the device on which the document was originally created, the user's end-product often lacked the font fidelity and appearance intended by the creator. For example, if an output device prints a document with a font substituted in place of the author's original font, a complete loss of original pagination or formatting within the document can often result. Such a result would make it difficult, if not impossible, for multiple users to review and comment collaboratively on the same document. Difficulties in retaining text integrity can be further complicated when users try to incorporate non-Latin fonts, such as Japanese, Chinese, Korean, Greek, or Hebrew, because font substitution for non-Latin fonts is typically not available in most operating systems and output devices.

Currently, techniques used to present text and graphics are based on existing desktop publishing technologies and, when used in new distribution media, often result in a loss of visual integrity, degraded system performance, or both. To efficiently deliver digital information that retains the author's intended visual impression, computer systems must use enabling technologies that reduce file size, minimize bandwidth consumption, and operate reliably across heterogeneous computing environments. The evolution of real time operating systems, cellular telephone operating systems, wireless Internet devices, PDAs, set-top boxes, information appliances, and embedded systems in general, will require the transition from text being displayed on these devices as bitmaps, as is currently done today, to text that can be scaled to fit the content being viewed on the device. Clear text that is easy to read on any device, at any size, and at any resolution is immeasurably important.

THE BITSTREAM SOLUTION

Since its founding over 20 years ago, Bitstream has played a leading role in the development of industry-standard font products and enabling technologies (e.g., font rendering and display software). Bitstream has also been actively developing font portability and compaction technology. The Company has built substantial expertise in digital type design and production, technical font formats, and font portability and compaction software. Bitstream intends to continue to develop or acquire technology to support its leadership position in these areas.

The Company believes that certain features of its products such as their performance, system scalability, cross-platform portability, small file application size, and high typographic quality, will facilitate their adaptation to new and emerging markets. These markets include the Internet, information appliances,

corporate intranets, embedded systems, set-top boxes, high definition televisions, multi-function devices (e.g. combined printer/fax/copiers), and handheld and wireless devices. Bitstream is currently developing, adapting and marketing its enabling technologies and font products to third parties whose products address these new and developing markets.

Bitstream's products and technologies have been designed to support existing technological and typographic standards, such as Unicode, TrueType, and Type 1, and to be embedded within full-featured products produced by OEMs and ISVs. The Company's products have also been designed to function in multi-platform computing environments, including Windows, UNIX, Linux, Macintosh, OS/9, and Java. The Company

plans to continue to promote the use of its products in multi-vendor configurations.

The Company has also expanded its product lines based on its type technology to include ThunderHawk, a browser for handheld devices. Management believes that the addition of ThunderHawk to its growing product line will significantly expand Bitstream's traditional type business into a new business focused on providing leading-edge browsing capabilities to small handheld devices, such as PocketPCs and cell phones. Today, Bitstream offers the complete ThunderHawk client-server solution to corporation, wireless carriers and to end-users as a Bitstream-hosted service. For corporations, the ThunderHawk Enterprise Edition gives a company's mobile workforce complete access to Internet and corporate intranet Web pages when the ThunderHawk server is deployed behind the corporate firewall. ThunderHawk also lets users work with Web-based business software, Web pages, and Web-based e-mail. The large virtual 800x600 screen size emulates the view that people are used to on desktop machines, enabling the users to access and modify web-based information from mobile devices efficiently using 802.11 networks or carrier WAN networks. For wireless carriers, ThunderHawk offers an enhanced browsing experience that can be offered by carriers as a way to increase data traffic and device usefulness.

PRODUCTS AND TECHNOLOGIES

The Company's products can be separated into three major groups: (1) Web browsing solutions; (2) type technology products, and (3) typeface products. Each of the product groups is described in greater detail below.

(1) Web Browsing Solutions

Bitstream's current Web browsing solutions are based on ThunderHawk, a wireless Web browsing technology for handheld devices, wireless devices, personal digital assistants, and other embedded systems. ThunderHawk relies on a server infrastructure combined with a small piece of thin-client code on the handheld device. The server infrastructure transmits Web content in a more compact format to the device, making fast and full-featured wireless Web browsing possible. In addition, ThunderHawk gives customers the same browsing experience on a handheld device as they are used to on the desktop. This includes viewing the full text and images of any Web page without excessive scrolling. By not relying on WAP or cHTML, ThunderHawk does not require Web content providers to repurpose their content or build separate Web sites one for the desktop and one for the wireless world. Instead, ThunderHawk enables users to see a Web page just as it appears on the desktop.

There are two versions of ThunderHawk, personal and enterprise editions. The personal edition was first released in May 2002 and was updated throughout the year to include support for more devices and in response to feature requests. The personal edition currently runs on a wide variety of Pocket PC devices. The enterprise edition was first released in August 2002, and was also updated with the personal edition. The enterprise edition currently runs on Pocket PC devices but also relies on servers in corporate offices. The enterprise edition allows corporate IT departments to deploy ThunderHawk on their networks, enabling their mobile workforce to browse both Internet and intranet Web pages giving their employees access to crucial corporate data, whether on the road or in the office. A mobile workforce can make database inquiries, update inventories, order products and publications, communicate with clients in the field, and schedule services and repairs. It is often more convenient for mobile employees to work with small wireless devices than bulky laptops.

(2) Type Technology Products

Type technology products consist of the following: (a) Font Fusion , font engine software that allows developers of operating systems, software applications, Web applications, low-resolution screen devices,

multimedia servers, high-definition television screens (HDTVs), set-top boxes, continuous tone printers, PDAs, and other embedded systems and information appliances to render high-quality characters in any format, at any resolution, on any device; (b) btX2 , font engine software that allows Linux developers to render high-quality characters in industry-standard and highly compact formats; (c) TrueDoc®, portable font technology that provides for the efficient distribution of text, with fidelity, in a highly compact format; and (d) TrueDoc Imaging System (TDIS), formerly Bitstream's 4-in-1 TrueDoc Imaging System, font engine software for developers of operating systems, servers, applications, and printer controllers where a complete font solution is needed to provide scaleable resident fonts and support for downloaded, industry-standard fonts. Each of these products is described in greater detail below:

(a)

Font Fusion

Font Fusion is Bitstream's most advanced font engine. The Font Fusion software developers' kits (SDKs) provide developers with full font fidelity and high-quality typographic output at any resolution, on any device, while maintaining the integrity of the original character shapes. It is designed to support operating systems, software applications, Web applications, low-resolution screen devices,

multimedia servers, high-definition television screens (HDTVs), set-top boxes, continuous tone printers, PDAs, and other embedded systems and information appliances. Font Fusion is independent of processor and operating system and compatible with all industry-standard font formats. It is a full-featured, next generation, small footprint, multilingual, outline font technology. Font Fusion is designed for color, grayscale and black-and-white ROM-based and non-ROM-based devices in a system where the fonts may reside locally or remotely.

Font Fusion development in 2002 included the release of version 2.2, which (1) improved the algorithms used for LCD displays; and (2) included a release of the Wireless Font Set, nine delta-hinted fonts designed specifically for LCD displays on wireless devices. In 2002, development also included the release of Font Fusion version 2.3, which (1) provided support for character-edge effects, including support for embossed, engraved, outline, and drop shadow text; and (2) included a release of the CCTV Font Set, seven high-quality, readable fonts for closed captioning display on digital and analog TVs. The 2.3 release of Font Fusion was done to support font requirements mandated by the Federal Communications Commission (FCC), as specified by the Electronics Industries Alliance (EIA). Bitstream can now provide developers with a complete solution for closed captioning display on both analog and digital television systems, including fonts, font styles, and font attributes. (Closed captioning involves displaying the "audio" portion of a TV broadcast as text, which is superimposed over the video portion. Most importantly, it allows viewers who are hearing impaired to access TV broadcasts. To display closed-captioned text, the viewers must have a set-top box decoder or a TV receiver that includes this decoding capability.) The FCC updated its closed captioning requirements for digital TVs: manufacturers must now include FCC-mandated decoder circuitry for closed captioning in their digital TV devices.

(b)

btX

btX was first released in 2001. The beta release of its successor, btX2, was released in December, 2002. While btX was server based, btX2 is client based. btX2 relies on a FreeType driver that provides access to Font Fusion, Bitstream's premier font rendering engine. btX2 enables developers to use the same application program interfaces (APIs) as FreeType. In addition to these APIs, developers can use the native TV mode offered by Font Fusion to render fonts on TV screens. btX2 supports Unicode encoding and can render international fonts.

btX2 is able to render eight font formats, including compact PFRs and compact Asian stroke-based fonts that can fit in embedded Linux systems and interactive TV devices, where space and memory are at a premium. That is, besides rendering industry-standard TrueType, Type 1, and PFR font formats, btX2 lets developers render very compact Asian fonts in stroke-based format. This is important because stroke-based fonts replace an unmanageable, large font with a small, manageable font. With stroke-based fonts, developers can scale characters to any size; use one font for all weights, from light to bold; and include all the characters in the font without having to subset it. Stroke-based fonts and btX2 provide a high-end font engine that can fine tune output for computer monitors, TV screens, and LCD displays.

btX2 comes with a core set of 13 delta-hinted, TrueType screen fonts. Delta hinting involves fine-tuning fonts so that they look good on the screen, even at small point sizes on low-resolution devices, such as computer monitors. Such a solution gives Linux applications and systems the same look and feel that customers are used to on the Microsoft and Macintosh desktops.

(c)

TrueDoc

TrueDoc is a portable font compaction technology designed for the distribution of electronic text-based information. OEMs and ISVs license and incorporate TrueDoc into their document creating and viewing products to achieve reliable, compact, and efficient recording, transporting, viewing, and printing of typographic information, whether or not the fonts used for the original creation of the document are resident on the recipient's system. TrueDoc has been engineered to be small in file and application size, to comply with all industry font standards, and to be cross-platform compatible.

TrueDoc is composed of two main software components. The TrueDoc Character Shape Recorder, approximately 75 kilobytes in size, captures character shapes from a font processor, such as TrueType or Type 1, and creates a portable font resource ("PFR") that is transportable across networks or the Internet. TrueDoc's Character Shape Player, approximately 65 kilobytes in size, recreates the character shapes stored in the PFR and displays the text in a manner that maintains the integrity of the original shapes. The Company believes that TrueDoc's small file size and efficient playback capabilities present advantages in applications where limitations on bandwidth and memory are significant factors.

The PFR is a compact, platform-independent format for representing high-quality characters from scalable fonts. The Bitstream PFR font format is open, public, and an industry standard. The PFR is the standard font format for digital TV. Many independent organizations responsible for setting digital TV standards have adopted the PFR as their standard font format, including the ATSC (Advanced Television Systems Committee); DAVIC (Digital Audio Visual Council), which set multimedia standards for international broadcasting; DTG (Digital TV Group), which coordinates standards for Digital TV broadcasting in the United Kingdom; DVB (Digital Video Broadcasting), a Swiss-based industry organization representing one standard for digital TV that has been adopted extensively in Europe; MHP (Multimedia Home Platform), which many European set-top box and digital TV manufacturers are using as their standard development platform; ISO/IEC 16500-6:1999 (International Organization for Standardization / International Electrotechnical Commission), which together form the specialized system for worldwide standardization; and OCAP (OpenCable Application Platform), which supports the DVB-MHP standard, including support for PFRs.

In December 2002, Bitstream released a beta version of PFRMaker. Bitstream PFRMaker is a utility program that allows developers to create custom PFRs from standard TrueType fonts. Using PFRMaker, developers can build any number of TrueType fonts into a custom PFR. It allows developers to create compact fonts, store as many characters as they want in a single PFR, and store font data (character IDs, character encodings, font metrics) that is also found in industry-standard font formats. PFRMaker is primarily for developers building to digital TV specifications that require the PFR as the standard font format, but anyone can license it.

(d)

TDIS

The modular architecture of the Company's "5-in-1" enabling technology, TDIS, provides software hooks to allow OEMs and ISVs to incorporate font scaling technologies into their products. The font scaling technologies included in TDIS are two industry standard font formats (TrueType and Type 1), the resident fonts used in Hewlett-Packard Company LaserJet laser printers, and a Bitstream TrueDoc-based font rasterizer that processes Bitstream-supplied resident font sets. In addition, this 5-in-1 architecture includes software that routes incoming font data to the appropriate processor and prepares the final rasterized characters for imaging by an output device or computer screen.

(3) Typeface Products

Bitstream has developed a library of over 900 digital typefaces deliverable in industry-standard TrueType and Type 1 font formats. Most of these typefaces are for use with English or other Western European language-based computer systems. A large number of typefaces are necessary to support OEMs and ISVs focused on the graphic arts market, who are accustomed to having a wide variety of typeface designs from which to choose. The remainder of the Company's typeface designs are non-Western language typefaces such

as Japanese, Greek, Cyrillic, Chinese, Korean, Russian, Hebrew and Arabic. Bitstream is committed to increasing the number and variety of typeface designs it offers to its customers.

In August 2000, Bitstream announced the New Font Collection (NFC) program to add fonts to the library and seek out designs from new and established designers alike. The NFC program releases new fonts regularly. In 2002, Bitstream released 29 fonts from 11 designers, including 13 Bitstream exclusives, from international award-winning designers. For the first time, Bitstream also released NFC font packs, including NFC: Volume 1; Iowan Old Style: The Complete Family; and four theme-based NFC packs.

In 2002, Bitstream furthered its commitment to worldwide font development by releasing 1 Thai, 5 Hebrew, and 35 WGL4 (Windows Glyph List 4) fonts. Each WGL4 font includes 652 characters, including characters that Western, Central, and Eastern European writing systems rely on; each WGL4 font also includes Baltic, Cyrillic, Greek, and Turkish characters.

In addition to typefaces, the Company also offers custom design services. Depending on the needs of the client, the Company can digitize corporate logos, modify existing typeface designs, add special characters to typefaces, and create new typefaces. The Company's custom design services are marketed to its OEM, ISV and large corporate customers.

Bitstream has developed its own, proprietary, font design software tools. These tools enable the Company's typeface product engineers to develop and expand the Company's library of typeface products and to generate custom typeface products in an efficient and cost-effective manner. By using its own tools, Bitstream largely can avoid licensing or paying royalties for the use of third party development tools. In addition, the Company believes that its design tools improve its competitive position in the marketplace by helping the Company rapidly adapt its products to the specific requirements of its customers.

SALES & MARKETING

The type and technology sales organization, as of March 14, 2003, consisted of three people focused on OEM and ISV sales for ThunderHawk and type technology products, one person focused exclusively on ThunderHawk sales, and two individuals focused on corporate direct sales. The Company's sales efforts are managed from its corporate headquarters in Cambridge, Massachusetts. The Company also has a sales agent based in Tokyo to facilitate OEM sales to Japanese hardware manufacturers. Sales personnel receive a base salary plus commissions based on meeting sales targets, with additional commissions for sales in excess of annual targets.

Marketing activities, as of March 14, 2003, are carried out by three individuals who are located at the Company's headquarters in Cambridge, Massachusetts. In addition, the Company promotes its products through attendance and exhibition at major industry trade shows and through its Web site, *http//www.bitstream.com*. The principal objective of the Company's marketing strategy is to grow the sales of the Company's browsing technologies based on Thunderhawk and to continue to expand the sale of the Company's font technologies to OEMs and ISVs, who integrate the Company's software into their own products, and to end users. OEM and ISV agreements range from those licensing a small group of typefaces to agreements whereby an entire range of font products and/or technologies are incorporated into the customer's hardware or software products. As new opportunities arise, the Company intends to evaluate other marketing approaches.

CUSTOMERS

The Company licenses its Web browsing technologies to corporations, end users and wireless carriers. The Company licenses its type technology and typeface products to a wide variety of OEM and ISV customers. The Company also sells custom and other typeface products directly to corporate customers and individual end users. No single Type segment customer accounted for 10% or more of the Company's revenue for any of the years ended December 31, 2002, 2001 or 2000. For the year ended December 31, 2002 one Type customer accounted for 10% of the revenue for that segment. However, no single Type segment customer accounted for 10% or more of the segment's revenue for the years ended December 31, 2001 or 2000. From time to time, product sales to large customers during a single fiscal quarter may constitute more than 10% of Company revenue for such quarter. The Company has broadened and intends to continue to broaden, its customer base through expanded product offerings and increased marketing

efforts. Revenue by geographic area is included in Footnote 10 in the Notes to the financial statements enclosed herewith.

RESEARCH AND DEVELOPMENT

Bitstream is committed to developing innovative software to enhance the browsing experience on handheld devices and to improve text imaging for wireless devices, operating systems, software applications, information appliances, Web applications, low-resolution screen devices, multimedia servers, high-definition television screens (HDTVs), set-top boxes, PDAs, and other embedded systems. To accomplish this goal, the Company has invested, and expects to continue to invest, significant resources in research and development. The Company's research and development activities are centered around advancing the Company's software products for its corporate, OEM and ISV customers and for wireless carriers. The Company maintains specific expertise in the areas of font formats, multilingual fonts, font portability, font compaction, and font processing technology. The Company emphasizes cross-platform portability, small file and application size, and extensibility to new technologies in its software development. To support these design objectives, the Company utilizes advanced software development techniques.

Bitstream is committed to advancing the Company's wireless browsing and font rendering products and technologies. During 2002, Bitstream's research and development activities produced:

ThunderHawk the enhanced wireless Web browsing technology for mobile devices. ThunderHawk brings the desktop browsing experience to wireless devices. The initial version was launched in April 2002. This was followed by four more point releases including feature enhancements and added device support. Additionally work was done on future ThunderHawk technologies including work on a future cell phone version.

FontFusion the company's smallest, most advanced font rasterizing engine, and the fastest font engine on the market. Two new versions were released which included improved support for Adobe OpenType fonts, and support for FCC edge effects standards for closed captioning, and improved small screen rendering. An optional new CCTV font set and an optional new Wireless font set was also released.

btX2 a beta version of this premier Font Rendering technology for Linux was released. btX2 is a FreeType driver that provides access to Bitstream's Font Fusion font rendering technology. btX2 allows developers to use the same function calls as FreeType. btX2

supports Unicode encoding and can render international fonts.

As of March 14, 2003, the Company employed 15 individuals who engage in Type research and development activities, including the Company's Chief Technology Officer who is currently focused on MyFonts.com. Of these, six focus on ThunderHawk, four focus on font product development, three on developing enabling technology, TrueDoc, Font Fusion, and btX, and two on all of these areas. The Company also uses outside consultants to support the ThunderHawk and stroke-based font development efforts.

COMPETITION

Bitstream's browsing solutions compete with the browsing solutions offered by a wide variety of companies, including large software companies and boutique companies focused on delivering solutions to a narrow part of the browser market. The markets for browsing solutions are the subject of intense industry activity, and it is likely that a number of software developers are devoting significant resources to developing and marketing technology and products that may compete with the Company's technology and products. Bitstream believes ThunderHawk compares favorably against the competition because of the desktop like web browsing experience and robust web-standards compliance. Browser competitors include PocketIE from Microsoft Corporation, Opera SmartPhone Edition from Opera software ASA, NetFront from Access Co. Ltd., and Blazer from Handspring, Inc. The competing solutions produce a lesser browser experience by offering a scrollable view of only a small section of the web-page and sometimes also by reformatting the page into a lengthy one-dimensional vertical structure.

The Company's typeface and type technology products compete with the solutions offered by a variety of companies, including other suppliers of enabling technologies, software application developers, and vendors of computer operating systems. Moreover, the market for the Company's enabling technologies and

products may be adversely affected to the extent that computer hardware, operating system, and application software vendors incorporate similar functionality or bundle competitive offerings with their products and thereby reduce the market for the Company's technology or products. The competition for the Company's sales of typefaces generally comes from a number of comparably sized or smaller companies offering their own typeface libraries and custom typeface services. Competition with the Company's enabling technologies principally comes from Agfa with its iType and Universal Font Scaling Technology ("UFST"). UFST has a similar architecture to the Company's TDIS enabling technology product. The competition for Font Fusion and the TrueDoc Imaging System consists primarily of software from Agfa, which includes a font compression technology known as MicroType Express. Other competition for Font Fusion comes from software from Slangsoft, which includes intelligent text input and display known as iTID. Competition for btX comes from FreeType, an open source collaborative organization that provides its Linux font rendering code for free.

The Company believes that the principal competitive factors affecting its market include product features and functionalities, such as scalability, ease of integration, ease of implementation, ease of use, quality, performance, price, customer service and support, and effectiveness of sales and marketing efforts. Although the Company believes that it currently competes effectively with respect to such factors, there can be no assurance that the Company will be able to maintain its competitive position against current and potential competitors.

MYFONTS

INDUSTRY BACKGROUND

Traditionally, individual digital fonts and font packages consisting of a variety of fonts have been sold through many different channels including: (1) catalog sales; (2) sales through resellers who typically handle fonts from multiple foundries together with other graphic arts supplies; and (3) CD ROMs containing many fonts which can be unlocked by means of a purchased key code.

While these approaches to selling fonts are generally satisfactory for professionals, they represent a barrier for the non-professional, casual user who is simply looking for a particular font. For example, if someone sees a font used in a magazine, traditional sales channels offer no quick and easy way of finding out what it is. Even when the name of the font can be determined, it is not obvious where to buy it from among the hundreds, if not thousands, of font foundries offering their fonts through numerous channels. As a result of such obstacles, font sales to non-professionals have historically been almost non-existent. Bitstream believes that this represents a large untapped market for fonts and established MyFonts in 1999 to capitalize on this market.

THE MYFONTS SOLUTION

In 1999, MyFonts developed a prototype Web site. This Web site included a few thousand fonts together with powerful search facilities to help users find a particular font. Some of these search facilities, such as the ability to browse fonts of a selected style, are commonly found on other Web sites featuring fonts. A keyword search engine, more powerful than commonly found on such sites, was developed to make it easier to pick fonts suitable for a given project. For example, if a consumer needs fonts for a wedding invitation, he or she may type the word "wedding" to find a variety of suitable fonts from a large number of competing vendors. In addition, novel capabilities allowing the user to ask to see fonts similar to a particular font are also included on the site.

The most powerful search technology included on the MyFonts.com Web site allows any user to upload an image scanned from a magazine or newspaper, and to get a list of the closest fonts matching the scanned image. This technology, called WhatTheFont , is believed to be one of the keys to making MyFonts.com easy and accessible to casual users. During 2000, Bitstream filed for a U.S. Patent relating to the use of automatic font recognition in conjunction with e-commerce.

MyFonts is designed to handle virtually all fonts available irrespective of their source. The Company's strategy for the MyFonts.com Web site is to become the universal and complete source for fonts from all font vendors and designers. To implement its strategy, the Company approached a number of key font

foundries and invited them to participate in the MyFonts.com Web site. Three levels of participation are currently available:

1. Level 1 A participating font foundry provides copies of its fonts for addition to the MyFonts database. This makes its fonts available to all searching and browsing facilities. In addition, it allows users to see images of the fonts for evaluation and comparison. If a user wishes to purchase a font from a participating foundry, he follows a link to the foundry's Web site where the purchase actually takes place. MyFonts collects no revenue from these sales. In many cases, however, MyFonts earns referral fees when such purchases are made.

2. Level 2 Similar to level 1 but the participating foundry allows its fonts to be sold directly by MyFonts. With each sale, MyFonts pays a royalty.

3. Level 3 Similar to level 2 but the participating foundry shares in the ownership and control of MyFonts. As of the date of this filing, no participants have elected to participate at this level.

Since launching the e-commerce portion of its Web site in April 2000, the Company has monitored sales and feedback from its users and used this information to make ongoing improvements to the Web site. As a result, the Company believes that the current Web site presents substantially fewer obstacles to finding and buying fonts than any other Web site offering fonts for sale.

PRODUCTS AND TECHNOLOGIES

In early 2000, Bitstream officially launched MyFonts.com, a showcase of the world's fonts from one easy-to-use Web site. Created by Bitstream and joined by some of the industry's most influential font foundries, MyFonts provides one of the largest collections of fonts ever assembled. It features new ways to find and purchase fonts on-line, and offers unique typographic resources and a forum for interacting with font experts.

As of the date of this filing, over 110 foundries, large and small, participate as partners with MyFonts to offer their fonts for sale. This represents an aggregate collection of over 27,000 fonts.

Some of the key features of MyFonts.com include: (1) MyFonts Valet which enables users to browse and locate fonts using keywords a novice or expert can understand; (2) WhatTheFont which allows users to scan images of typefaces and upload them to MyFonts.com for identification; (3) the ability to find fonts similar to a particular typeface design using the "Show me more fonts like this..." feature; (4) test driving a font in your own text; (5) exploring the world of fonts with links to typographic resources available on the Web; (6) the ability to collect fonts into one or more Font Albums for side-by-side comparison and collaborative decision making; and (7) the ability to interact with type experts and fellow users on-line, ask questions, or join the on-line MyFonts Forum.

The mission of MyFonts is to make fonts accessible to everyone, which benefits both users and the font foundries. Fonts have been an anomaly to the general computer user difficult to find, purchase, and install, and often an unknown aspect of their desktop environment. MyFonts

hopes to endear fonts to all users, not just graphic arts professionals.

SALES & MARKETING

Marketing activities are carried out by one individual drawn from Bitstream's Type business located at the Company's headquarters in Cambridge, Massachusetts. Since its inception, marketing of MyFonts has been focused on recruiting participation from font foundries, making Web users aware of MyFonts.com and bringing them to the Web site. Since 2002, the Company has focused marketing efforts for MyFonts.com on increasing awareness of, and sales on, the site. Marketing activities to increase awareness on the part of potential font buyers consists of a tradeshow presence in combination with efforts aimed at building Web links from search engines and other Internet sites. To complement this presence, the Company strives to further increase awareness by encouraging editorial coverage in relevant publications and through print and Internet advertising.

Analysis of sales results suggests that most of MyFonts.com's customers find the site by means of search engine queries. The Company has worked and continues to work vigorously to develop and improve its ranking on search engines. In addition, the Company enters into referrer agreements with selected Internet sites that share a portion of revenue in return for referring new customers.

One of the most promising and innovative means of making access to MyFonts.com as easy as possible is by building in a connection to MyFonts.com from font managers. By automating the often-troublesome font installation process, one significant barrier to new users is removed. The first implementation of this approach was developed jointly between the Company and Corel Corporation in the form of an enhanced Bitstream Font Navigator released in November 2000. This technology has subsequently been incorporated into DiamondSoft's Font Reserve font manager. The Company plans to work with other developers of other font managers to implement this powerful technology more broadly.

Using the same technology that enables font managers to handle the purchasing and addition of fonts, MyFonts also provides back-end font searching and e-commerce facilities to other Web sites including *www.bitstream.com.*

CUSTOMERS

MyFonts licenses typefaces to end users worldwide through its e-commerce Web site. No single MyFonts segment customer accounted for 10% or more of the Company's revenue or that segment's revenue for the years ended December 31, 2002, 2001, or 2000.

RESEARCH AND DEVELOPMENT

The Company is committed to developing leading-edge technology for its MyFonts.com Web site to ensure that the site is the primary site to purchase fonts on the Web. As of March 14, 2003, the Company employed three individuals and two consultants who focus on research and development activities relating to the technology incorporated into the MyFonts.com Web site, including Bitstream's Chief Technology Officer. Additional Bitstream personnel also assist in the research and development effort for the site including Bitstream's internal font experts.

COMPETITION AND OTHER RISKS

Competitors to MyFonts include individual font foundry Web sites and other font-related Web sites that offer a variety of fonts for sale online. However, MyFonts believes that it has no direct competitors who offer such a wide variety of fonts on one easy-to-use Web site aimed at people who have never previously purchased a font. However, there can be no assurance that consumers will prefer to use MyFonts.com over Web sites hosted by individual font foundries. There also can be no assurances that MyFonts will succeed in hosting virtually all of the available digital fonts in the world. If there are critical omissions due to non-participation by key foundries, the value of the site as a one-stop shop will be reduced. Even with the powerful search tools and the ability to find any font in one place, there is no assurance that additional sales of fonts will occur in sufficient numbers to justify the cost of operating MyFonts.

PAGEFLEX

INDUSTRY BACKGROUND

Corporate marketing departments in the United States spend approximately $20 billion on commercial printing each year. Market Research firm CAP Ventures estimated in early 2000 that for every dollar spent on printed product, ten dollars is spent in creating, revising, ordering,

warehousing, distributing, and obsoleting inventory.

Marketing documents are typically created through an expensive, labor-intensive process. After all the text and image content has been created, the process of laying the content out on a page and preparing it for the printing press involves hand-offs between two or three separate departments or firms, with manual intervention and rework by each. The desktop publishing revolution has made the process of developing the component text, images, tables, charts, and illustrations very efficient. However, once an original design is created, the process by which other people such as dealers, distributors, and franchisees implement and customize it for their local situation is cumbersome at best. This workflow requires sending multiple drafts back and forth between designer and content provider, which takes shipping time and adds to the labor time and cost.

In the past few years, corporate marketing departments have learned to take advantage of the Web as a new marketing medium. These departments are becoming familiar with the qualities and opportunities of the new medium, such as the abilities to update information quickly and easily, to generate content pages

dynamically directly from corporate databases, and to personalize the customer experience. The Internet is fast becoming the first place a potential customer goes to search for general information or learn about a company and its offerings. Web sites are, or will soon be, the primary information source for customers and potential customers. Compared to the Web, traditionally produced print is slow, unwieldy, and expensive. Internet speed has made printed materials far more likely to be out-dated and thrown away.

With today's manual page layout and cumbersome prepress process, it is impossible to personalize printed pages the way one can with the Web. It is also not economically feasible with today's offset presses to print less than 1,000 copies of any document, let alone a run of one, as would be required for ultimate personalization. Today, companies have separate teams dedicated to print and Web publishing. Often the only time these teams share input is by manually cutting and pasting between Web and print authoring tools and databases. Each team typically publishes from its own database, and each database must be independently updated.

Companies are realizing the increased customer loyalty and profits that result from treating customers as individuals. They recognize the importance of identifying their most valuable customers and lavishing attention on them in a way tailored exactly to their needs. The heart of systems for this kind of personalization is the maintenance of a unique profile of each customer. Companies like credit card providers, airlines, auto manufacturers, and computer manufacturers all have databases of their customers, with unique purchase profiles to leverage in the creation of personalized communications. Customer relationship management (CRM) software, integrated with Pageflex software to create personalized marketing communications for customers, can enhance customer loyalty and boost future revenues. Marketing industry consultants Don Peppers and Martha Rogers have popularized the notion of marketing to an audience of one. To implement one-to-one communications, all marketing communications must be moved from a one-size-fits-all approach to a custom manufacturing model, in which thousands of variations can be produced at low cost. The market is demanding solutions to implement this one-to-one concept.

Pageflex software, together with high-speed color printers and digital presses, makes one-to-one marketing a practical reality. With or without the added complexity of one-to-one marketing, companies must create thousands of unique marketing documents to meet the needs of their distribution partners and to present all their products and services. The number of variations required can be computed by considering combinations of the following factors:

The number of revisions of the document in a year

The number of basic document templates

The number of product and service variations to go through the template

The number of distributors who want the document customized for local markets.

The number of languages needed for each country

The combinations of variations from one-to-one marketing

CAP Ventures observed in 2002 that the variable-data segment of the black-and-white print-on-demand market was already 8% among commercial printers and 12% in corporate environments, and that print-on-demand as a whole will experience a 17% compound annual growth rate (CAGR) through 2006, when it will represent a $17.1 billion market.

Pageflex has actively pursued the Web-to-print market since the release of Mpower 2.0 in early 2000. MPower is currently in revision 3.5. Much of the current Pageflex customer base uses Mpower in a transactional mode as part of an e-commerce solution. These customers provide customized marketing materials in on-demand mode to corporations. Marketing managers, sales people, and franchise owners are among the types of users who choose marketing templates online, select images, type custom content into a Web form, review a PDF proof Mpower generates and then displays in their Web browser, and order the digital or offset printing of a customized marketing document. Web-to-print custom publishing systems streamline production processes and save money, since marketing collateral can be designed once and then repurposed numerous times. Such systems also enable those who need marketing collateral to receive printed documents in a matter of days instead of weeks. Fortune 1000 marketing departments are the target market for these Web-to-print services, and Pageflex users include Ford, IBM, Xerox, Whirlpool, Birkenstock, Wise Business Forms, and USA Direct.

THE PAGEFLEX SOLUTION

The Company develops technologies that distinguish it as a pioneer and leader in the publishing world and empower major corporations to rethink their marketing strategies and workflows. The products are as follows:

Mpower is an enterprise solution that allows companies to dynamically create customized business documents. Driven by customer profile information entered into a Web form or database, Mpower selects tailored text and graphics elements and assembles them into sophisticated documents even for naïve users. Mpower uses highly flexible design templates that contain thorough copy-fitting rules and careful permissions to determine how and by whom each design can be altered. Mpower creates GIF, JPEG, and PDF document previews and generates PostScript, PDF, and Personalized Print Markup Language (PPML) output. Mpower also includes output drivers for selected vendor-specific formats like Xerox VDP.

Persona is a desktop application designed to produce personalized documents driven from a database. It is an easy-to-use product that offers powerful features not found in existing solutions to companies just getting started in variable-data printing. Persona projects easily migrate to Mpower, since the two share the same templates. Persona includes drivers for PPML and PostScript output, and select vendor-specific drivers are available separately.

.EDIT is an innovative new technology launched in May 2002 and released in version 2.0 in February 2003. .EDIT enables non-designers to create typography-rich, layout-rich print documents from within a Web browser. The user experience is full interactive WYSIWYG, as with desktop publishing but without extra software installation and with the added benefit of built-in design rules and permissions. Pageflex has developed this technology to target Web-to-print service providers who need to offer more creative freedom to their customers than possible with typical template-driven publishing workflows, while precluding extra labor costs and longer production cycles. Within an automated publishing workflow, .EDIT makes a print document available for remote hands-on editing, styling, and content positioning changes. This feature set with all the richness of desktop publishing is presented in an easy-to-use interface right in the customer's familiar Web browser. The user interface can be made as simple as necessary to match user skill levels, empowering even publishing novices.

Variable-data printing (VDP) changes the focus from marketing one product to thousands of customers to marketing many products to a selected group of customers or to an individual customer. By merging database records and digital imaging technology, VDP makes it possible for each printed copy of a document to be different from all others. Pageflex combines VDP capabilities with the ability to print flexible run lengths just in time for delivery, to create a complete print-on-demand marketing solution. Companies can instantly create customized materials for their customers and print just as many as they need immediately. Not only does this model improve the response rates of customers, it also allows a company to maintain last-minute, accurate information in its materials. Writers, editors, and graphic designers can customize their documents to contain material appropriate for each reader while ensuring that the latest product descriptions and updates are included with each new distribution. The return on investment (ROI) for this kind of technology includes eliminating the losses in throwing out old literature and increasing the marketing yield with more personal campaigns.

As acceptance for one-to-one marketing and targeted audiences grows, the Company finds that its software products are becoming necessary tools in the publishing industry. In this time of revolution in the way we view publishing, Pageflex continues with an aggressive and innovative development program to create products with strong print-on-demand customization and personalization capabilities.

Pageflex products and technologies have been designed to support existing technological standards. Pageflex is a founding member of the Print On Demand Initiative (PODi), an alliance of key vendors and service providers working in the digital color printing market. PODi promotes a greater awareness about the applications and benefits of digital color printing through the journal articles, independent research, industry seminars, and special events. Membership in PODi is open to leading vendors and service providers in digital printing, database marketing, and mail product development. PODi members include Adobe, Creo, Electronics for Imaging (EFI), Hewlett-Packard, IBM, and Xerox.

Pageflex also participates in the PODi Personal Printing Initiative (PPI). The PPI seeks to understand and quantify the value of variable color digital printing as a means of improving customer acceptance and

application. The goal of the PPI is to help eliminate obstacles facing users of variable-data systems, thus accelerating market acceptance. The PPI has completed and released a PPML standard harmonizing the ten vendor-specific proprietary protocols currently used to drive digital presses at high speed into one open standard supporting PostScript, PDF, and AFP. Pageflex software, since its inception, has sought to drive all brands of digital printers. Pageflex has a neutral position as a creator of output that has enabled it to play a central role within the PPI working group. With strong Pageflex input, PPML has been adopted as a standard across the industry, and Pageflex continues to play a leading role in the standardization program.

Pageflex also is actively involved in the Extensible Stylesheet Language (XSL) working group of the World Wide Web Consortium (W3C). Pageflex was invited onto the committee by the chairperson, based on the Company's years of experience developing style sheet languages. XSL is one of the components of the W3C XML standards effort. Dr. Jeffrey Caruso represents Pageflex and serves along with representatives from Adobe, Sun, IBM, Microsoft, and about twenty other prominent firms. Dr. Caruso worked with Adobe to co-edit the print-oriented formatting part of the standard. In October 2001 the World Wide Web Consortium released XSL 1.0 as a formal W3C Recommendation.

The XSL standard is of great strategic importance to Pageflex. The Pageflex underlying composition engine, NuDoc , currently uses its own proprietary TSL style language. The Company is making plans to develop its NuDoc composition engine for XSL. This version of NuDoc will make Pageflex solutions based entirely on open standards, using XML for content and XSL for form, and joining them together to create PDF, PostScript, and other output formats.

PRODUCTS AND TECHNOLOGIES

The Company's Pageflex products consist of: (1) Mpower, for Internet-driven customized documents targeted at a particular market segment or an individual reader; (2) .EDIT, to allow all users from novices to experts to modify templated designs in an interactive WYSIWYG environment but under the constraint of rules and permissions set by the designer and (3) Persona, a desktop application designed to produce sophisticated personalized documents in PDF or PostScriPART. All three products are based on the NuDoc document composition engine and the set of template authoring tools in Pageflex Designer.

Mpower

Mpower is an integrated suite of software applications that gives enterprises in many industries and digital printing service providers the ability to design and produce customized-database- or Internet-driven marketing communications on demand. Mpower can assemble complex projects dynamically and deliver them instantly in print or bitmap formats to a wide range of output devices, the Web, and e-mail.

Mpower can use customer profile information about a recipient to control the selection of digital content for a document, including its logos, imagery, illustrations, and text. The customer profile information is stored in a database or collected from a Web form. Typically a call center, the salespeople, or the recipients themselves complete these Web forms. Mpower then uses intelligent, flexible templates to automatically assemble this personalized content into final documents for output.

Mpower is based on the principle of separating document content from document design. Content is the raw information, and form is the presentation how the page is laid out, what fonts and colors are used, and how images are sized and positioned. Pageflex captures the design of a document in the form of a flexible, intelligent template that represents the original vision for the page. The copy-fitting and placement rules, together with permissions that govern user ability to change elements, are built into each design template by the designer. The designer is thus

able to protect the whole from degradation and damage by content providers who have little or no design skill but can modify and add their content. Document designs originally developed in Quark Xpress, Adobe InDesign, Microsoft Word, or other applications can be imported into Mpower through the use of Pageflex plug-ins that enable these third-party applications to export to the Pageflex XML data format. The flexible templates are populated with images, text, and other content, customizing the page based on variables created as part of a template. The variables are attached to customer information stored in a database or collected from a Web form, as well as to meta tags used by a content management system. Pageflex software interprets the variables to determine which copy and illustrations to select for the customized document it is assembling.

By separating content and design and helping users easily and intelligently recombine them, Mpower lets users assemble pages on the fly, based on market profile or user preference. Mpower leverages the valuable customer information stored in corporate databases by using it to tailor a marketing message directly aimed at individual customers. It also allows the user to repurpose content the text, images, and other digital files used to market their business and make it work in far more productive ways. Mpower redefines a document from a static single-purpose entity into a flexible multi-purpose asset the user can use again and again, with far greater result each time.

Mpower is layered on top of the Company's NuDoc composition engine. Development in NuDoc started in the 1980s with a product called Archetype Designer used for advertising makeup. Further development in NuDoc targeted newspaper and classified advertising systems. Development of the Mpower application layer began in 1997. Total investment in Mpower and NuDoc is approximately 155 staff-years.

In May of 2002, Pageflex released Mpower in version 3.5. Mpower 3.5 also included a variety of additional new features, usability improvements, and performance enhancements, notably support for:

Pageflex ..EDIT workflows

Native PDF output

Placed PDF

Advanced copy-fitting rules

Spot colors and tints

The Company believes that Mpower 3.5 defines the state of the art for Web-to-print custom publishing software. By incorporating advanced copy-fitting capabilities, the ability to place PDF objects, and enhanced color support, Mpower 3.5 also appeals to marketing and advertising users who are developing one-to-one marketing campaigns and who want to let their users customize designs through a simple Web interface. Good examples of this model include expresscopy.com, through which realtors in all 50 states access flyer, postcard, and business card designs to customize for short print runs; and Ford Germany, whose dealers create new car advertisements by customizing templates in an online interface.

.EDIT

Pageflex .EDIT is the first Web browser-based design and editing application that enables non-designers to create typography-rich, layout-rich documents with just a browser and an Internet connection.

.EDIT represents a revolutionary level of interactivity for Web-to-print solutions. It enables companies to offer interactive document editing capabilities to customers, employees, marketing partners, and dealers or franchise owners over a corporate Web site. Users need only a Web browser and an Internet connection, without any plug-ins or additional software applications.

Customers deploying .EDIT on their Web site can create templates that maintain their brand and corporate identity by using approved fonts, design elements, and images. They can also limit the editing capabilities made available to their end users and constrain portions of the document so that they cannot be modified. Authorized visitors to a .EDIT-enabled Web site can interactively modify the document directly

online to create layout-rich, typography-rich versions of the documents. In essence, each user creates the ultimate customized document.

.EDIT enables companies to:

- Offer applications in which Web site users directly select, edit, and style text, images, and shapes
- Offer forms-based preview applications, in which users enter variable data into forms and quickly see a preview of the updated document
- Streamline document review cycles by providing a Web interface with which internal and external customers can safely make any last-minute document changes
- Control the look and feel of corporate documents, while permitting restricted modification of both content and style
- Use the client application out-of-the-box for quick deployment

- Customize components to control exactly which functionality users can access and use
- Customize the visual appearance of components so that the application best integrates within an existing Web site
- Integrate components in workflows that involve a proxy server for security or caching

.EDIT allows end users to:

- Edit documents without having to install or learn software, in a highly intuitive graphical interface
- Create professional-looking documents by adding personal text and images to well-designed templates
- Create documents that use corporate-approved fonts, colors, design elements, and images
- Create documents leveraging sophisticated design features
- Count on the final output matching the screen, since both use the same underlying composition engine and fonts

.EDIT was first released in May of 2002. In February 2003, Pageflex released version 2.0 of .EDIT with significant enhancements for enterprise Web-top publishing applications. These include several performance enhancements, support for proxy-servers, and wide support for browsers for Windows, Mac OS X, and Mac OS 9.x.

Persona

Persona, a variable content publishing application, allows users to create sophisticated, personalized documents in PDF, PostScript, or PPML. Persona is an easy-to-use desktop application for Windows, consisting of a subset of features from Mpower, Pageflex's enterprise marketing-on-demand solution. Built upon open standards, Persona is the first variable content publishing solution to use XML as the intermediate data format between databases and the page composition process. Like Mpower, Persona uses Pageflex's advanced NuDoc page

composition engine, offering precise control over the design of page templates while maintaining a strict separation of design and content. Using an ODBC-compliant database as a customer profile data source, Persona users can create conditional rules that determine which content is chosen for a particular profile. The content is then dynamically placed in the template to create the final document.

Persona users can build a document template from scratch by creating image containers, text containers, and other graphic elements using familiar GUI tools. And because Persona incorporates a full composition engine, it offers the standard composition tools such as leading, kerning, justification, and hyphenation. Persona shares Mpower's "flex" capabilities, the ability to automatically adjust a container size based on the size or orientation of the content that flows into it. In addition, surrounding containers move in concert to adjust with the change, maintaining the design integrity.

Other key features of Persona include:

Support for if/then/else selection rules for variable content

Support for keyword queries of variable content with Pageflex Librarian

Previewing for each individualized record

PPML and object-based PostScript output

Import of Quark and PageMaker documents through Adobe InDesign and a plug-in

Optional output for Creo VPS, Indigo JLYT, and PPML

Pageflex released Persona 1.5 in the first quarter of 2002. The release highlighted output drivers and included a new PPML driver with additional functionality for the EFI Fiery line, as well as enhancements to the existing Creo VPS driver.

NuDoc

NuDoc is an advanced document composition engine based on the principle of separating form from content. Leveraging object-oriented technology, NuDoc is a reusable building block for document processing

applications. NuDoc object classes provide an application programming interface (API) that supports the importing, editing, displaying, or printing of electronic documents. One of the strengths of NuDoc is its ability to dynamically create layout-intensive pages through import of separate content and style files. In NuDoc, a document object is made up of style, content, and page layout sub-objects. A style object contains rules that govern the form or appearance of the document. Content elements such as words, images, and movies are organized into a tagged tree structure that represents the logical organization of the information into sections and sub-sections. W3C Extensible Markup Language (XML) is the default content data representation. Styles are represented by a set of model objects. NuDoc uses a new style file format called Template Style Language (TSL) to represent the model objects. TSL styles describe the colors, fonts, and geometric rules that govern how structured content is formatted into the desired visual appearance. The TSL uses the metaphor of a flexible container to describe how to adjust the sizes and positions of text blocks, images, and other elements to produce a well-designed page.

SALES AND MARKETING

As of March 14, 2003, the Pageflex sales and marketing organization consisted of five people focused on maintaining and expanding reseller and OEM relationships as well as completing a limited amount of direct sales. The Company's sales efforts are managed from its corporate headquarters in Cambridge, Massachusetts. The Company also seeks to enhance its relationships with existing and potential customers through its training and technical support teams who work with existing and potential customers, resellers, and strategic partners to support the sales process and to facilitate the implementation and use of the Company's software products and technologies.

The Company promotes its products through attendance and exhibition at major industry trade shows such as Direct Marketing and Print on Demand; through participation in booths sponsored by its strategic partners, like Electronics For Imaging, Xerox, HP, Indigo, Adobe and Creo Scitex; and through its Web site, *www.pageflexinc.com*. The principal objective of Pageflex marketing strategy is to continue to expand awareness of its on-demand marketing software products to Web-to-print providers, digital service and print providers, corporate marketing departments, design firms, advertising agencies, direct mail houses, and other corporations and end users. As new opportunities arise, the Company will expand its portfolio of marketing approaches. To date the most successful segments have been printers and marketing and advertising agencies.

CUSTOMERS

The Company licenses its Pageflex products directly to Web-to-print providers, print service providers, major corporations and end users, and indirectly through resellers and strategic partners. No single customer of the Pageflex business segment accounted for 10% or more of the total Company revenue for the years ended December 31, 2002 and 2001, nor did any single Pageflex customer account for 10% or more of that segment's revenue during those years. For the year ended December 31, 2000 this segment generated license fees and royalty revenue under a long-term contract with Atex Media Solutions, Inc. ("Atex") of $874,000, accounting for 10% of the Company's revenue for the year ended December 31, 2000 and 32% of the Pageflex segment's revenue for the same period. During the year ended December 31, 2000 the Pageflex segment had revenues from two additional customers, which accounted for less than 10% each in total Company revenues but 16%, and 12%, respectively, of that segment's revenue during the year. The customer that accounted for 16% of the Pageflex segment's revenues during the year ended December 31, 2000 was Xerox, which signed a development and distribution agreement with the Company during the fourth quarter of 2000. The Company intends to continue to broaden its customer base through increased marketing efforts, by developing relationships with systems integrators, OEMs, and partners in 2003, and by introducing new product offerings. Revenue by geographic area is included in Footnote 10 in the Notes to the financial statements enclosed with this document.

RESEARCH AND DEVELOPMENT

Pageflex is committed to advancing the Company's on-demand marketing products and technologies. As of March 14, 2003, the Company employed ten individuals who engage in research and development

activities for its Pageflex business, and two individuals who provide customer technical support. During 2002, Pageflex research and development activities produced:

.EDIT 1.0 The Web browser-based design and editing technology allowing non-designers to create professional-looking documents within browser session. With .EDIT, companies can provide employees, dealers, and customers the ability to edit every aspect of highly-designed documents over the Internet. On the other side of the equation, marketing departments can control the look and feel of corporate documents while also permitting restricted modification of both content and style. A .EDIT solution uses Java applets and JavaScript within client browsers, as well as a .EDIT server running the Pageflex NuDoc composition engine. Users can edit documents using Internet Explorer or Netscape on Macintosh or Windows computers. The .EDIT offering will complement the existing Pageflex dynamic publishing technologies.

Mpower 3.5 A major upgrade to the flagship product with support for .EDIT, native PDF output and placement, and other major usability and performance enhancements.

A product with the codename Park Street An enterprise server technology addressing the document customization and scalability demands of the Web-to-print market. Park Street provides concurrent processing of custom document previews and output; queuing and load balancing across multiple job processing engines; and Web-based job status tracking. Park Street is advantageous when Mpower server load reach thousands of jobs an hour or experience consistent instances of concurrent processing requests. Park Street, currently in beta testing, supports Pageflex Mpower and .EDIT projects.

Persona 1.5 A release focused on output drivers and including a new PPML driver with additional functionality for the EFI Fiery line, plus enhancements to the existing Creo VPS driver.

DesignOut plug-in 2.0 A package adding support for Adobe InDesign 2.0 by enabling export of InDesign documents to the Pageflex format.

COMPETITION

Pageflex believes its products compete favorably based on rich feature sets, ease of use, stability, and scalability. In addition, the Persona application is a desktop tool that offers an easy upgrade path to the server-based solution Mpower, which uses the same templates. The Company believes that Park Street and .EDIT will solidify the position of Pageflex as the industry-leading one-to-one marketing communications solution in the Web-to-print fulfillment space.

Pageflex Persona competes with entry-level variable-data tools created by various digital press vendors. This market is focused on the creation of personalized documents requiring optimized output capabilities, many of which are vendor-specific today. Pageflex products offer output to several of the digital presses on the market, as well as output of Personalized Print Markup Language (PPML). As the PPML standard becomes more widely accepted, output to multiple vendor presses will be possible by all page creators. Pageflex competitors in this regard include Creo Scitex Darwin, Indigo Yours Truly, Barco VIP Designer, Xeikon PersonalizerX, Banta DesignMerge, and Atlas Printshop Mail. Pageflex believes it competes favorably in this market because of robust functionality and strong relationships with resellers, partners, and market influencers.

Pageflex Mpower and .EDIT are server-based enterprise applications targeted at the customized print or Web-to-print segment of the on-demand publishing market. This market is characterized by rapid technological developments and frequent product introductions. Participants in this market compete based on functionality, price, service, customizability, and interoperability with other e-publishing solutions and components. Pageflex faces competition from vendors offering end-to-end solutions and integration services that include on-demand publishing tools like Mpower. These solutions in turn compete with solutions created by Pageflex customers. These competitors include Banta, DeskNet, Digital VIP, Saepio, XMPie, Quark DDS and 3B2 Online. In addition, Pageflex may face new competition from emerging products and technologies. Pageflex believes it can compete favorably here based on the reliability and richness of the Mpower application suite and the strengths of the underlying NuDoc composition engine.

INTELLECTUAL PROPERTY

The Company relies on a combination of trade secret, copyright, patent, and trademark laws and contractual restrictions to establish and protect proprietary rights in its technology. The Company has entered into confidentiality and invention assignment agreements with its employees, and when obtainable, enters into non-disclosure agreements with its suppliers, distributors and others so as to limit access to and disclosure of its proprietary information. There can be no assurance that these statutory and contractual arrangements will prove sufficient to deter misappropriation of the Company's technologies or that the Company's competitors will not independently develop non-infringing technologies that are substantially similar to or superior to the Company's technology. The laws of certain foreign countries in which the Company's products are or may be developed, manufactured or licensed may not protect the Company's products or intellectual property rights to the same extent as do the laws of the United States and thus make the possibility of piracy of the Company's technology and products more likely. The Company believes that, because of the rapid pace of technological change in the software and electronic commerce markets, legal protection for its products will be a less significant factor in the Company's future success than the knowledge, ability and experience of the Company's employees, the frequency of product enhancements and the ability of the Company to satisfy its customers.

The Company's policy is to apply for U.S. patents with respect to its technology and seek copyright registration of its technology and trademark registration of its marks from time to time when management determines that it is competitively advantageous and cost effective to do so. The Company has been granted four patents by the United States Patent and Trademark Office, three of which are directed to certain aspects or applications of the Company's TrueDoc technology and one of which is directed to the Company's DocLock technology. Additionally, the Company has sought foreign patent rights to certain aspects of its TrueDoc technology by filing foreign applications in several countries, which have already resulted in two patents from each of the United Kingdom and Canada. Furthermore, multiple U.S. and PCT applications are pending on some of the Company's newer technologies. The Company is currently in the process of registering several trademarks and preparing a variety of patent applications relating to MyFonts.com and its Pageflex software. Bitstream®, TrueDoc®, T2K® and Cyberbit® are federally registered trademarks of the Company. All other trademarks, service marks or tradenames referred to in this Annual Report on Form 10-K are the property of their respective owners.

EMPLOYEES

As of March 14, 2003, the Company employed 55 persons, including 13 in sales and marketing, 29 in research and development, and 13 in general and administrative functions. Of the Company's 55 employees, 53 are full time and 2 are part time. The Company also retains consultants from time to time to assist it with particular projects for limited periods of time. The Company believes that its future success will depend in part on its ability to attract, motivate and retain highly qualified personnel. None of the Company's employees is represented by a labor union and the Company has not experienced any work stoppages. The Company considers its employee relations to be good.

EXECUTIVE OFFICERS OF THE REGISTRANT

The Company's executive officers and their ages as of March 26, 2003 are as follows:

Name	Age	Position
Charles Ying	56	Chairman of the Board and Chief Executive Officer
Anna M. Chagnon	36	President, Chief Operating Officer and General Counsel
John S. Collins	63	Vice President and Chief Technology Officer
Sampo Kaasila	42	Vice President, Research and Development
Costas Kitsos	42	Vice President of Engineering
David Frenkel	55	Vice President and General Manager, Pageflex, Inc.
James P. Dore	44	Vice President and Chief Financial Officer

Charles Ying has been Chief Executive Officer of the Company since May 1997 and Chairman of the Board of Directors since April 1997. From January 1992 to January 1996, Mr. Ying served as Chief Executive Officer of Information International Inc., a corporation engaged in the business of designing, manufacturing and marketing computer-based systems that automate document production and publishing.

Mr. Ying also serves as a member of the Board of Directors of NodeWarrior Networks Inc., an Internet Service Provider located in Los Angeles, California. Mr. Ying holds a B.S. and M.S. in Electrical Engineering from the Massachusetts Institute of Technology.

Anna M. Chagnon has served as President of the Company since June 2000 and as Chief Operating Officer, Chief Financial Officer and General Counsel of the Company since August 1998. She previously served as Executive Vice President from August 1998 to June 2000 and Chief Financial Officer from August 1998 to March 2003. From July 1997 to August 1998, she served in various positions at the Company including Vice President, Finance and Administration, Chief Financial Officer and General Counsel, and Vice President and General Counsel. From November of 1996 to July 1997, Ms. Chagnon was Counsel to Progress Software Corporation, a developer and worldwide supplier of solutions to build, deploy and manage applications across Internet, client/server and host/terminal computing environments. From August 1994 to November 1996 she was an attorney for the Boston law firm of Peabody & Arnold LLP where she specialized in corporate, securities, finance and intellectual property law. She holds a Bachelor of Science degree, summa cum laude, from Northeastern University, a Juris Doctor degree from Boalt Hall School of Law of the University of California at Berkeley, and a Master of Business Administration, summa cum laude, from Babson College.

John S. Collins has been Vice President and Chief Technology Officer since August 1998. From 1988 to August 1998, he served as Vice President of Engineering. Mr. Collins was the inventor or a co-inventor of a number of the patents held by the Company relating to font imaging technology. He is the principal inventor of the Company's TrueDoc technology. Mr. Collins holds a B.Sc. and a Ph.D. in Electrical Engineering from the University of London.

Sampo Kaasila has served as Vice President, Research and Development, of the Company since November 2001. Mr. Kaasila serves as the principal architect of the Company's Font Fusion and ThunderHawk products. From November 1998, when Mr. Kaasila joined Bitstream upon the acquisition of Type Solutions, Inc., to November 2001, he served as Director of Research and Development, Type Solutions. From August 1989 to November 1998, he was a founder and President of Type Solutions, Inc., a leading developer of font technologies including T2K , a font renderer which provides an object oriented design, advanced architecture and algorithms, and a clean API resulting in maximum reliability, performance, and easy integration. From August 1987 to August 1989, Mr. Kaasila worked at Apple Computer, Inc. and was the lead engineer and inventor of the True Type technology now part of every MacIntosh and Windows PC. Mr. Kaasila holds a Masters degree in Electrical Engineering from the Royal Institute of Technology in Stockholm, Sweden where he graduated first in his class in January 1983.

Costas Kitsos has been Vice President of Engineering since November 1999. Mr. Kitsos serves as principal architect of the Pageflex Mpower and Persona products, and is also the technical lead for the Company's end user type application products. From October 1998 to November 1999, he served as Director of Research and Development of the Company. From November 1996 to October 1998, he was a Senior Software Engineer at the Company. Mr. Kitsos is a veteran software developer with over ten years experience in type and publishing application development. From May 1987 to November 1996, Mr. Kitsos headed IconWorks, which developed award winning type applications and offered consulting services on end user programs and graphical user interfaces. He holds a Masters degree from the University of California, Los Angeles.

David Frenkel has been General Manager of Pageflex since August 2002. From October 2001 to July 2002, he was COO of Media Command Americas, a systems integrator and software vendor for newspaper advertising, circulation, accounting, editorial, and data mining and

customer relationship management systems. From April 1993 to October 2001, Mr. Frenkel was the founder and CEO of Pentawave, which pioneered database and Web-to-print publishing solutions for automotive, employment, and real estate advertising, primarily in newspapers. He has also held senior executive roles in several Fortune 500 companies and founded two other publishing automation companies. Mr. Frenkel holds a B.S. Degree in Physics from the University of Melbourne, Australia.

James P. Dore was named a Vice President and the Company's Chief Financial Officer in March 2003. From June 1999 to March 2003, he served as the Corporate Controller for the Company. From January 1997 to June 1999, Mr. Dore served as Corporate Controller at Celerity Solutions Inc. (bulletin board CLTY), a developer and marketer of supply chain and warehouse management business software, he also served as Celerity's Chief Financial Officer and Treasurer from April 1999 to June of 1999. Mr. Dore has over twenty

years of service in various senior financial positions, holds a C.P.A. certificate and a B.S. degree, with distinction, from Clarkson University.

ITEM 2. Properties

The Company's corporate headquarters is located in Cambridge, Massachusetts where it currently leases approximately 27,500 square feet under a lease expiring in October 2003. Management believes that these facilities are adequate for the Company's current needs and that suitable additional space, should it be needed, will be available on commercially reasonable terms.

The Company also has an operating lease for small engineering office in Plaistow, New Hampshire.

ITEM 3. Legal Proceedings

The Company is not a party to any material litigation.

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

No matters were submitted to a vote of security holders during the fourth quarter of the fiscal year ended December 31, 2002.

PART II

ITEM 5. Market for Registrant's Common Equity and Related Stockholder Matters

MARKET INFORMATION

At December 31, 2002 the Company's Common Stock traded on the Nasdaq National Market System. Effective February 28, 2003 the Company's Common Stock was transferred from the Nasdaq National Market to the Nasdaq Small Cap market. The application to transfer to the Nasdaq Small Cap Market was made in response to a notice from Nasdaq that the Company was not compliant with Nasdaq's new continuing listing requirement, which became effective November 1, 2002. Nasdaq changed its National Market System continued listing standard from a minimum $4,000,000 net tangible asset requirement to a minimum $10,000,000 stockholders' equity requirement. Bitstream did not comply with the $10,000,000 stockholders equity requirement, as its stated equity as of December 31, 2002 was $6,000,000. Upon consideration of the factors involved, the Company elected to transfer from the Nasdaq National Market. Bitstream's common stock will continue trading under its current symbol BITS.

The Class A Common Stock of the Company began trading publicly on the Nasdaq National Market tier of The Nasdaq Stock Market on October 30, 1996 under the symbol "BITS". Prior to October 30, 1996, there was no public market for Bitstream's Class A Common Stock. The following table sets forth the high and low closing sale prices of the Company's Class A Common Stock as reported on the Nasdaq National Market for the periods commencing January 1, 2001 through December 31, 2002. Such information reflects interdealer prices, without retail markup, markdown, or commission, and may not represent actual transactions.