

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549  
**FORM 20-F**

(Mark One)

**REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

**OR**

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

For the fiscal year ended December 31, 1998

**OR**

**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: 001-14251

**SAP AKTIENGESELLSCHAFT**  
**SYSTEME, ANWENDUNGEN, PRODUKTE IN DER DATENVERARBEITUNG**  
(Exact name of Registrant as specified in its charter)

**SAP CORPORATION**  
**SYSTEMS, APPLICATIONS AND PRODUCTS IN DATA PROCESSING**  
(Translation of Registrant's name into English)

**Federal Republic of Germany**  
(Jurisdiction of incorporation or organization)

**Neurottstrasse 16**  
**69190 Walldorf**  
**Federal Republic of Germany**  
(Address of principal executive offices)

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

<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
American Depositary Shares, each Representing One-Twelfth of One Non-Voting Preference Share, without nominal value	New York Stock Exchange
Non-Voting Preference Shares, without nominal value	New York Stock Exchange*

**Securities registered or to be registered pursuant to Section 12(g) of the Act:** None

**Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:** None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock at the close of the period covered by the annual report:

Ordinary Shares, without nominal value (as of December 31, 1998) . . . . .	61,000,000
Non-Voting Preference Shares, without nominal value (as of December 31, 1998) . . . . .	43,564,499

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  No

Indicate by check mark which financial statement item the registrant has elected to follow.

Item 17  Item 18

\* Not for trading, but only in connection with the registration of American Depositary Shares representing such Preference Shares.

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\* Omitted because the Item is inapplicable or the answer is negative.

\*\* The Registrant has responded to Item 18 in lieu of this Item.

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## INTRODUCTION

SAP Aktiengesellschaft Systeme, Anwendungen, Produkte in der Datenverarbeitung (“SAP” and, together with its subsidiaries, the “Company”) was incorporated under the laws of the Federal Republic of Germany (“Germany”) in 1972. Where the context requires, “SAP” refers to its predecessors, Systemanalyse und Programmentwicklung GdbR (1972-1976) and SAP, Systeme, Anwendungen, Produkte in der Datenverarbeitung GmbH (1976-1988). SAP became a stock corporation (*Aktiengesellschaft*) in 1988. The Company’s principal executive offices are located at Neurottstrasse 16, 69190 Walldorf, Germany. Its telephone number is 49-6227-7-47474.

“SAP,” “ABAP/4,” “SAP EarlyWatch,” “SAP Business Workflow,” “R/2,” “R/3,” “ABAP,” “TeamSAP,” “BAPI,” “AcceleratedSAP,” “ALE/Web,” “EnjoySAP,” “mySAP.com,” “SAPNet,” “SAP Aerospace & Defense,” “SAP APO,” “SAP Automotive,” “SAP B2B Procurement,” “SAP Banking,” “SAP Chemicals,” “SAP Consumer Products,” “SAP Engineering & Construction,” “SAP Healthcare,” “SAP High Tech,” “SAP Higher Education & Research,” “SAP Insurance,” “SAP Marketing,” “SAP Media,” “SAP Mill Products,” “SAP Oil & Gas,” “SAP Online Store,” “SAP Pharmaceuticals,” “SAP Public Sector,” “SAP Retail,” “SAP Service,” “SAP Sales,” “SAP Service Provider,” “SAP Telecommunications” and “SAP Utilities” are trademarks of the Company. This document also contains trademarks of companies other than the Company.

Unless the context otherwise requires, references in this Annual Report on Form 20-F (“Form 20-F”) to “Ordinary Shares” are to SAP’s ordinary shares, without nominal value, and references to “Preference Shares” are to SAP’s non-voting preference shares, without nominal value. From August 4, 1988 to July 17, 1995, SAP’s share capital consisted of ordinary shares, nominal value DM 50 per share (the “DM 50 Ordinary Shares”), and, on and after June 7, 1990, non-voting preference shares, nominal value DM 50 per share (the “DM 50 Preference Shares”). From July 18, 1995 through June 16, 1998, SAP’s share capital consisted of: (i) DM 50 Ordinary Shares and ordinary shares, nominal value DM 5 per share (the “DM 5 Ordinary Shares”); and (ii) DM 50 Preference Shares and non-voting preference shares, nominal value DM 5 per share (the “DM 5 Preference Shares”). Generally, the DM 50 Ordinary Shares were treated as ten DM 5 Ordinary Shares, and the DM 50 Preference Shares were treated as ten DM 5 Preference Shares. Effective June 16, 1998, SAP’s share capital was converted to no nominal value shares. References in this Form 20-F to “ADSs” are to American Depository Shares, each representing one-twelfth of one Preference Share.

## PRESENTATION OF FINANCIAL INFORMATION

In this Form 20-F: (i) references to “U.S.\$” or “Dollars” are to U.S. Dollars; (ii) references to “DM” or “Marks” are to German Deutsche Marks; and (iii) references to “EUR” or “euro” are to the euro, a currency of the countries participating in the European Economic Monetary Union (“EMU”). Certain amounts that appear in this Form 20-F may not sum because of rounding adjustments. In this Form 20-F, except as otherwise specified, financial information with respect to the Company has been expressed in euros, Marks or Dollars; however, the operations of the Company are based primarily in Germany, and the Company’s consolidated financial statements included herein are expressed in Marks. Effective January 1, 1999, the euro was introduced in the 11 member states of the European Union currently participating in the EMU. The fixed exchange rate for euros converted to Marks is DM 1.95583 per EUR 1.00. Effective as of January 1, 1999, the Company has adopted the euro as its financial and reporting currency. Effective February 26, 1999, all of SAP’s share capital was converted to the euro.

Unless otherwise specified herein, all Mark financial data that have been converted into Dollars have been converted at the noon buying rate in New York City for cable transfers in foreign currencies as certified for customs purposes by the Federal Reserve Bank of New York (the “Noon Buying Rate”) on December 31, 1998, which was DM 1.667 per U.S.\$1.00. No representation is made that such Mark amounts actually represent such Dollar amounts or that such Mark amounts could have been or could be converted into Dollars at that or any other exchange rate on such date or on any other dates. For information regarding recent rates of exchange between euros and Dollars and Marks and Dollars, see “Item 8. Selected Consolidated Financial Data — Exchange Rates.” At May 7, 1999, the Noon Buying Rate for converting Marks to Dollars was

DM 1.8142 per U.S.\$1.00, and the Noon Buying Rate for converting euros to Dollars was EUR 1.0781 per U.S.\$1.00.

The Company's consolidated financial statements included in "Item 18. Financial Statements" in this Form 20-F have been prepared in accordance with generally accepted accounting principles in Germany ("German GAAP"). A reconciliation of the differences between German GAAP and generally accepted accounting principles in the United States ("U.S. GAAP") which materially affect the determination of net income for each of the three years ended December 31, 1998, 1997 and 1996 and shareholders' equity at December 31, 1998 and 1997 is set forth in note 6 to the Company's consolidated financial statements included herein. Effective for the fiscal year 1999 and thereafter, the consolidated financial statements of the Company will be prepared exclusively in accordance with U.S. GAAP. The Company issued its results for the first quarter of 1999 in a press release dated April 21, 1999, and, in a separate press release of the same date, the Company restated its quarterly and annual results for 1998 in accordance with U.S. GAAP for comparative purposes. The Company's 1997 consolidated financial statements will be restated in accordance with U.S. GAAP for comparative purposes with the issuance of the Company's 1999 consolidated financial statements.

#### **FORWARD-LOOKING STATEMENTS MAY PROVE INACCURATE**

Any statements contained in this Form 20-F that are not historical facts are forward-looking statements as defined in the U.S. Private Securities Litigation Reform Act of 1995. Words such as "believe," "estimate," "intend," "may," "will" and "expect" and similar expressions as they relate to the Company are intended to identify such forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements. All forward-looking statements are subject to various risks and uncertainties that could cause results to differ materially from expectations. The factors that could affect the Company's future financial results are discussed more fully under "Item 9. — Management's Discussion and Analysis of Financial Condition and Results of Operations — Factors That May Effect Future Results and Market Price of Stock," as well as elsewhere in this Form 20-F and in the Company's other filings with the U.S. Securities and Exchange Commission. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates.

## GLOSSARY OF CERTAIN DEFINED TERMS

- “ABAP Objects” extends the current ABAP Workbench with object technology and delivers a new extended, virtual machine capable of running both new applications, implemented using ABAP Objects, and all existing ABAP applications.
- “Advanced Business Application Programming” or “ABAP” is the Company’s fourth-generation programming language, which is specifically designed for integrated standard software applications. ABAP also supports all of the steps involved in improving the client/server solution, from prototyping through implementation and testing, to final optimization. The latest extension of ABAP is ABAP Objects.
- “Application” refers to software designed for a specific purpose to be used by an individual, such as a spreadsheet, which performs mathematical operations, or a planning program that allocates tasks to a timetable.
- “Application Link Enabling” or “ALE” enables expanded use of the R/3 System within a company and within a company’s business partners and provides the Company’s software products with distribution models and technologies for linking business applications across technically independent systems by enabling, among other things, multiple database servers to share transaction update information.
- “Business Application Programming Interfaces” or “BAPIs” are interfaces within the business framework to link Company components to one another and Company components to third-party components.
- “Business framework” is offered by the Company as an integrated, open, component-based product architecture that has the flexibility to accept new business processes and is open to other technologies and applications.
- “Graphical user interface” or “GUI” refers to the display of software on a screen using graphics, symbols and icons rather than text alone. An example of a GUI is Microsoft Corporation’s “Windows” format.
- “Integration” allows data to flow freely from one corporate area to another without having to pass through time-consuming and trouble-prone interfaces. Integration also permits companies to maintain the same data from various sites.
- “Open architecture” means that a software product’s components can conform to non-proprietary standards of other software suppliers, thus permitting multi-tiered functioning on database servers, application servers, personal computers, workstations or Web-browsers.
- “Real-time” refers to the immediate access to a given piece of data by multiple users throughout the different departments or divisions of a company.
- “Scalable architecture” permits a company to size its computer systems based on actual needs and to continually add users and enhance business/decision processes.
- “Three-tier client/server architecture,” consisting of the database, the applications and the presentation logic, may run simultaneously on three different physical computers. Distributing these functions among several computers enhances scalability and performance through parallelism.

## PART I

### **Item 1. Description of Business.**

Certain terms used in this "Item 1. Description of Business" have been given specific meanings or abbreviations set forth in "Glossary of Certain Defined Terms."

#### **Overview**

The Company is a leading international developer and supplier of integrated business application software designed to provide cost-effective comprehensive solutions for businesses. The Company's mission is to market products and provide services that improve user productivity and add value to its customers by decreasing the total cost of ownership of, and increasing the total return on investment for, business application software. The Company believes that its products provide the technological infrastructure to enhance customers' growth and organizational agility. The Company's products include enterprise resource planning software and independent business applications for analysis, optimization and planning, as well as certain complementary third-party software products. The Company's services include consulting, support and training.

The Company's primary product is the R/3 System for client/server (distributed) architectures. The Company's R/2 System is available for mainframe data processing systems. The R/3 System and the R/2 System (together, the "Systems") are designed to provide customers with a palette of standard business solutions arranged in applications which provide integrated enterprise-wide processing of business workflows. In 1998, the Company announced the introduction of its "New Dimension" products, which initially include independent business applications for extended supply chain management, customer relationship management, business intelligence and electronic commerce. The Company's products include, in addition to the Systems and the New Dimension products, industry-specific products ("Industry Specific Products") and other independent business applications (collectively, the "SAP Software Products"), and the Company provides the necessary technological infrastructure to support complementary third-party software solutions. The Company has many strategic partners that offer complementary third-party software, services and hardware. In 1999, the Company announced that all SAP Software Products will be accessible for use over the Internet, enabling new Internet-based business scenarios, inter-enterprise integration and more efficient electronic commerce.

On December 31, 1998, the Company had more than 19,000 System installations at over 10,700 customers ranging in size from multinational enterprises to medium- and smaller-sized businesses. For the year ended December 31, 1998, the Company's sales revenues and results from ordinary operations (pretax profits) were approximately DM 8.47 billion and DM 1.92 billion, respectively, as compared to DM 6.02 billion and DM 1.67 billion, respectively, for the year ended December 31, 1997. Net income was DM 1,052.3 million and DM 925.4 million for the years ended December 31, 1998 and 1997, respectively. The Company consists of SAP and its network of 55 operating subsidiaries and has a presence or a representative in 107 countries.

#### **Strategy**

The Company's business strategy is to increase its profitability and market share by offering superior software products and services through its business framework approach to enterprise systems. In implementing this strategy, the Company has focused on three primary initiatives: (i) continually enhancing and improving enterprise software products that offer customers a total enterprise solution and independent solutions for key business functions; (ii) providing consulting, support and training services that effectively meet the customer's needs and reduce the customer's total cost of ownership; and (iii) optimizing the distribution of the Company's products and services.

### *Enhancing and Improving Products*

The Company's product strategy is to offer customers both total enterprise software solutions and independent solutions for key business functions. The Company seeks to achieve this through: (i) the development and enhancement of SAP Software Products to enable Internet-based business processes; (ii) the enhancement of its R/3 System with updated releases which incorporate best business practices, new business processes and usability enhancements (including Internet-enablement); (iii) the introduction and enhancement of its New Dimension independent business applications; (iv) the creation and enhancement of Industry Specific Products tailored to meet the functionality needs of targeted vertical industries; and (v) the creation and enhancement of the necessary technical infrastructure to support the interoperability of complementary third-party software products.

*Internet Applications; mySAP.com.* A major focus of product development, across all of the Company's product areas, has been and continues to be the Internet and Internet-based applications. Since 1996, the R/3 System has offered Internet-enabled business processes; the Company believes that continued enhancements to the R/3 System will expand Internet-enabled business processes dramatically. In May 1999, the Company announced its "mySAP.com" Internet business strategy, which includes: (i) mySAP-Employee Workplace, a personalized, role-based interface for SAP Software Product users; (ii) mySAP.Business Scenarios, a host of software applications for the Internet; (iii) the Company's Internet portal, my SAP.com; and (iv) hosting of SAP Software Products on the Internet. As part of mySAP.com, the Company plans to extend the Internet to all SAP Software Products. Included in the mySAP.com initiative are the *SAP Business-to-Business Procurement* solution, which optimizes processes for the procurement of indirect goods and services over the Internet, *SAP Online Store*, an electronic storefront for Internet business, and a complete front- and back-office solution for Internet business marketed through Pandesic LLC, a joint venture between the Company and Intel Corp.

*R/3 System Enhancements.* The Company continually enhances the R/3 System to run with new database systems and new hardware and software technologies. To this end, the Company is a party to joint development and cooperation agreements with leading hardware and software vendors. As part of the Company's mySAP.com initiative, the Company's product development effort is particularly focused on allowing the R/3 System to process business content provided by third parties and expanding and enhancing its Internet-enabled applications.

*EnjoySAP.* Through a Company-wide strategic initiative, the Company has focused development resources on enhancing the usability of SAP Software Products. The objective of EnjoySAP is to make the R/3 System and all other SAP Software Products (other than the R/2 System) easier for users to learn, tailor and use. As part of the EnjoySAP initiative, the Company plans to simplify the user experience with a new visual appearance, new interaction concepts and a more personal user interface, streamlined to users' dedicated work environments. Key elements of EnjoySAP include meaningful user involvement during the development and testing process (customer site visits, a user simplification ideas contest and usability lab), as well as collaboration with world-renowned design experts. The Company's *SAP Business-to-Business Procurement* solution is the first product released by the Company through the EnjoySAP initiative. EnjoySAP releases of the Company's other products will follow, with the first EnjoySAP release of the R/3 System expected to be made available in the second half of 1999.

*New Dimension Products.* The Company, through various initiatives, has introduced a series of independent business solutions. These solutions can be utilized as integrated components with the R/3 System or on a stand-alone basis. In 1998, the Company announced the introduction of its New Dimension products, which initially include: (i) supply chain management applications, including *SAP Advanced Planner and Optimizer*; (ii) customer relationship management applications, including *SAP Sales*, *SAP Service* and *SAP Marketing*; (iii) business intelligence software, including *SAP Business Information Warehouse*, *SAP Strategic Enterprise Management* and *SAP Knowledge Management*; and (iv) electronic commerce products, including *SAP Business-to-Business Procurement*. See "— New Dimension Products."

*SAP Solution Maps.* SAP Solution Maps are comprehensive business models, which have been developed by the Company together with customers, partners and industry experts. The Company is using the

SAP Solution Maps to articulate the strategy for its Industry Specific Products and to communicate current Company and Company third-party software partner product fit, including future development intentions. SAP Solution Maps thus help customers visualize, plan and implement a coherent information technology (“IT”) plan for their businesses. Through periodic updates, the SAP Solution Maps map industry business processes, technology and services with the Company’s current and future development intentions, reflecting the release cycles of the R/3 System, the Industry Specific Products, the New Dimension products and complementary third-party software products.

*Industry Specific Products.* The Industry Specific Products are designed to address the unique functionality requirements of the Company’s targeted vertical industries. These requirements are defined by the Company in conjunction with its customers and partners in the targeted industries and provide specific enhancement of the R/3 System and certain independent business applications to match effectively the specialized needs of such targeted industries.

*Complementary Third-Party Software Products.* The Company has developed a comprehensive technological infrastructure to provide for the interfacing of complementary third-party software products to the Company’s software products. The Company has developed over one thousand currently available standard BAPIs, which enable multiple outside parties’ application components to function with SAP Software Products. Through its own distribution channels, the Company also offers its customers selected complementary third-party software products in conjunction with SAP Software Products.

#### *Consulting, Support and Training Services*

The Company offers a range of consulting and support services, both directly and through alliances with third parties. A continuing focus of the Company’s efforts is to reduce a customer’s total cost of ownership of SAP Software Products. To simplify and speed implementation and use of SAP Software Products, the Company seeks to provide increasingly flexible, component-based installation options. In 1997, the Company introduced AcceleratedSAP, a Company-wide program that comprises a basket of accelerators, tools, templates and services. The Company believes that AcceleratedSAP has significantly reduced installation times. The Company continues to develop and release industry-specific versions of AcceleratedSAP. The Company has also introduced an accelerated upgrade program, which includes accelerators, tools, templates and services to allow for cost-effective and timely upgrades of R/3 Systems to future R/3 System releases.

The Company has also established the TeamSAP initiative, which is designed to coordinate the personnel, products and processes necessary for the implementation of SAP Software Products. TeamSAP plays an ongoing role in maintaining and continuously improving customers’ SAP Software Products even after implementation. As part of the TeamSAP initiative, the Company certifies third-party hardware and software vendors involved in the implementation of SAP Software Products.

The Company offers R/3 System training for project teams and end-users, and has begun to offer additional training services relating to Industry Specific Products and certain third-party complementary software. The Company has expanded its training services to include workshops for customers and, partners addressing business functions as they relate to SAP Software Products, as well as “portable classrooms” to provide increased flexibility. The Company also plans to enhance its Internet-accessible training components.

#### *Distribution*

The Company currently has a presence or a representative in 107 countries, with its headquarters located in Walldorf, Germany. In Germany, the Company markets its products and services primarily through its own direct sales and support force. The Company began operating in the United States in 1988 through SAP America, Inc., a wholly owned subsidiary. The fastest growing geographic market for the R/3 System has been the United States, where businesses have readily accepted client/server systems. The Company believes that Asia, eastern Europe and Latin America present opportunities for further growth. However, there can be no assurance that macroeconomic events in these countries or regions, including economic, political or currency exchange turmoil in Asia, eastern Europe, Latin America or elsewhere, will not adversely affect or delay these opportunities.

Over the past several years, a large portion of the Company's marketing and product development efforts focused on large, multinational concerns. More recently, the Company has expanded its marketing and product development efforts with respect to medium- and smaller-sized companies. The Company believes that its products and services meet important needs of rapidly growing and resource-constrained mid- and smaller-sized companies. The Company has developed an independent sales and support force through the establishment of value-added resellers who primarily market SAP Software Products to smaller-sized businesses (*i.e.*, generally those with annual revenues below U.S.\$200 million per year). In addition, the Company has entered into strategic alliances with certain major systems integration firms, telecommunications firms and computer hardware providers to offer certain SAP Software Products to medium- and smaller-sized companies as a component of outsourcing offerings. At December 31, 1998, over 43% of the Company's installed Systems were in medium- and smaller-sized companies.

The Company also believes that it can enhance the distribution of its products and services by building upon its experience and expertise in providing business software solutions for a variety of specific industries. In late 1998, the Company reoriented its operations to six "Industry Sectors" dedicated to providing complete business solutions for specified industries. These Industry Sectors will be responsible for the entire sales, delivery and implementation process with their respective customers.

## **Background**

In the early 1970s, mainframe computer systems had limited data storage capacity. "Batch operation" and "sequential data storage media" (*e.g.*, magnetic tapes or punch cards) were the norm. Software applications for a given company had to be custom designed to achieve the functionality necessary to address that company's business. It was in this environment that the Company's five founders established SAP in 1972 with the goal of developing multi-functioned application software as a standard (rather than customized) product designed for real-time, online data processing. The founders' objective was to allow immediate and continuous updating of computer-stored information by offering multiple users direct access in an easy-to-use format. SAP's first generation of software was introduced in 1973 and consisted of a modest financial accounting application. The Company believes that this initial system represented the first real-time standard software application ever produced. Gradually, over the next several years, new applications such as "Materials Management" and "Asset Management" were added to the initial system and enhancements expanded the functionality of existing applications. At the same time, SAP began to work on integrating various applications within the initial system.

In 1981, the Company introduced its second generation of application software, the R/2 System. The R/2 System had the capacity to be installed on an enterprise-wide basis, without requiring substantial customization. The R/2 System also reduced bottlenecks by improving and accelerating user access to data. In 1988, the Company anticipated growth in the use of a new hardware technology — client/server architecture. The three-tier client/server architecture, consisting of the database, the applications and the presentation logic, may run simultaneously on three different physical computers. Distributing these functions among several computers enhances scalability and performance. During this period, the Company designed the initial version of the R/3 System to offer the functionality of the R/2 System in a client/server environment. The R/3 System was brought to market in the early 1990s.

## **Products**

### *Integrated Business Processes in Distributed Environments*

The R/3 System and the R/2 System currently consist of a number of major functional components, each of which contains numerous business process applications. The Systems integrate all of the business application processes through a central logical database, which is designed to eliminate data redundancy and protect data consistency and integrity. Certain multiple country versions of the business process functions, which include multiple languages, currencies, legal regulations and accounting systems, can run on the same database server, which helps to extend a company's functional components beyond national borders. Each of the components is designed to permit separate installation, thereby complementing solutions already in place

from other vendors or installation with other components of the Company to form an integrated enterprise-wide information and data-processing system. Both the R/3 System and the R/2 System include integrated functions designed to have multilingual capacity (currently more than 28 languages) and the capacity to handle multiple currencies as well as multiple national legal, tax and accounting structures.

### *R/2 System*

In 1997, the Company introduced Release 6.1 to the R/2 System, which was intended, among other things, to enable the R/2 System to support the latest mainframe architecture of International Business Machines Corp. ("IBM"). The Company also provides tools to facilitate the migration of R/2 System users to the R/3 System. The Company is subject to contractual obligations with certain customers to provide support for the R/2 System for varying lengths of time. Although the Company is under no obligation to provide such support once such contracts have expired, the Company currently intends to provide support for certain releases of the R/2 System until the year 2004.

The R/2 System is based on the 370-computer architecture and is designed to operate on IBM and Siemens AG hardware platforms. The R/2 System is designed to operate with a variety of operating systems (*i.e.*, MVS/E2SA, VSE/ESA and BS2000), databases (*i.e.*, IMS-DB, DL/1, VSAM, ISAM, DB2 and Adabas D) and terminals (*i.e.*, character terminal, PS/2 (Presentation Manager)), UNIX Workstation (Motif) and MS DOS PC (Windows)). It utilizes the Assembler and ABAP languages.

### *R/3 System*

The R/3 System was brought to market in the early 1990s. The Company offers the R/3 System as a standard, integrated, real-time, enterprise-wide business solution usable on a wide variety of hardware platforms and with a variety of databases and software systems. The Company believes that the R/3 System enables companies to maximize their enterprise computing power by tying together disparate functions such as financial management, sales and distribution, logistics, manufacturing and human resources. Integration also permits companies to reduce their investment in relatively expensive hardware resources by allowing real-time access to data by multiple users. The R/3 System's architecture is intended to provide two significant benefits to users: (i) creating highly flexible and scalable systems that can be expanded to meet users' needs and to adopt technological changes; and (ii) optimizing data processing capacity, enabling wider simultaneous use of a company's systems by multiple users.

The R/3 System is designed to fit all major UNIX platforms and Windows NT platforms, and will be available for certain distributions of Linux in 1999. The R/3 System operates with a number of databases (*i.e.*, Adabas D, ORACLE, Informix-Online, IBM DB2 Universal Database, IBM DB2 for OS/390 and Microsoft SQL Server) and GUIs (*e.g.*, Microsoft Windows 98/95/NT and Windows 3.1.) Currently, the Apple Macintosh, IBM OS and UNIX OSF/MOTIF front-end platforms are supported with native GUI implementations which will be phased out in favor of the modern Java implementations which support network computers and Web browsers as well. The R/3 System utilizes the ABAP, C, C++, HTML and Java languages.

## **Areas of the R/3 System**

### *Logistics Applications*

Within the logistics functional area, the *Product Data Management, Sales and Distribution, Production Planning, Project System, Material Management, Quality Management, Plant Maintenance* and *Service Management* applications form an integrated suite of applications for procurement, manufacturing and sales and distribution of goods and services.

The *Product Data Management* application supports the creation and management of product data throughout the product life cycle and contains a computer aided design/computer aided manufacturing interface. The *Sales and Distribution* application combines sales and distribution workflows, providing companies with online real-time information to facilitate, among other things, product sales, credit manage-

ment, sales simulation analysis and multiple orders. The *Production Planning* application is designed to facilitate all major tasks within an integrated production planning chain, including production scheduling, production resources planning, and monitoring and improving efficiency in the production process. The *Project System* application defines the sequential course of a project through time in the form of activities, to which detailed dates, costs and resources are assigned. The *Project System* checks and monitors the availability of funds, capacities and materials, permitting the user to determine that appropriate resources are available for the project to be carried out. As with other applications, the user can employ *SAP Business Workflow*, a Web-enabled application for planning and tracking workflow, to improve communications within large projects. For example, one can use *SAP Business Workflow* to ensure that the purchasing department is immediately notified of any changes in schedule or quantity requirements. The *Material Management* application focuses on facilitating the full range of transactions and functions within the areas of material requirements planning, material procurement, inventory management, invoice verification and material valuation. For example, the business processes included within the application can automatically compare the prices, service and quality of suitable vendors and determine the most favorable vendor for each purchase. The *Quality Management* application assists customers in planning and implementing procedures for inspecting and controlling quality within the logistics chain. The *Plant Maintenance* application supports all the activities associated with planning and processing plant maintenance tasks ranging from the scheduling of maintenance and inspection tasks to issuing repair orders when breakdowns occur. The *Service Management* application helps a customer manage its installed base (regardless of whether it is a customer's or a competitor's installed base), including its configuration, history and service or warranty circumstances. The Company plans to introduce in 1999 the *Logistics Execution System*, which will add certain warehouse management and logistics functionality and enhance certain of the logistics functionality presently incorporated in other existing logistics applications.

#### *Financial Applications*

The Company's suite of integrated financial applications and components encompasses a broad range of financial accounting, investment management, controlling, treasury management, asset management and enterprise controlling functions.

The *Financial Accounting* component gives customers the ability to track financial accounting data within an international framework of multiple companies, languages, currencies and books of accounts. The Company believes that the *Financial Accounting* component complies with International Accounting Standards, as well as various national generally accepted accounting principles, that it currently satisfies local legal requirements of 47 countries and that it reflects the legal and accounting changes resulting from the introduction of the euro in the eleven member states of the European Union currently participating in the EMU. Further, the application utilizes ALE, which is intended to enable users to implement decentralized accounting functions while at the same time maintaining a centralized enterprise-wide master general ledger. The *Travel Management* application allows companies to process a business trip from the initial travel request through to posting in the *Financial Accounting and Controlling* application. Within the *Treasury Management* component, the *Cash Management* application is designed to provide the information relevant to liquidity for analysis purposes, creating a basis for cash management decisions. Bank account management, electronic banking and control functions provide support for managing and monitoring bank accounts. The *Treasury Management* component also offers functions for managing financial transactions and positions, from trading through to transferring data to the *Financial Accounting* component. The *Treasury Management* component also supports flexible reporting and evaluation structures for analyzing financial transactions, positions and portfolio allocations. The *Treasury Management* component includes a risk management function involving a complex feedback loop encompassing data collection, risk measurement, analysis and simulation, as well as planning with respect to financial instruments. The *Controlling* application is designed to integrate external and management accounting systems to control and monitor overhead, product and production cost. A wide variety of production methods are supported, and analysis functions are designed, to enhance decision-making processes. Inherent in the *Controlling* application is activity-based costing ("ABC"), which allows the benchmarking of processes to be based not only on time requirements but also on costs. ABC underlies the *Profitability Analysis* application, which is designed to permit customers to examine the sources of their returns. As a sales controlling component, *Profitability Analysis* is the last step in cost and revenue accounting,

where revenues are assigned to costs according to profitability segment, or to a segment of customer operations.

The *Project System* application is designed to combine project workflows on a real-time basis to facilitate the planning, controlling and monitoring of company projects. The *Asset Management* application is intended to assist companies in managing their fixed assets by providing parallel recording of book depreciation, tax depreciation and cost accounting depreciation. The *Capital Investment Management* application provides tools for the management and oversight of general appropriations budgets and carries out bookkeeping functions associated with assets under construction on capital investment projects and orders. The *Enterprise Controlling* component is designed to allow companies automatically to generate consolidated financial statements, including necessary eliminations, such as intercompany transactions and currency translation. The *Executive Information System* application permits companies to take financial data from any R/3 System application and combine it with external sources (e.g., market data or industry benchmarks) or data from non-Company applications to build a company-specific comprehensive enterprise information system.

#### *Human Resources Business Applications*

*SAP Human Resources* (“*SAP HR*”) encompasses substantially all facets of human resources management: organizational management, benefits administration, time management, payroll administration and employee development. *SAP HR*, as of the current release, has been established as an independent component. This allows human resources organizations to implement and maintain the *SAP HR* application independently from the selection of enterprise resource planning applications.

The Company currently offers over 30 standard country versions of *SAP HR* and is adding new country-specific components. *SAP HR* also offers applications designed for employees and line managers. *SAP Employee Self-Service*, currently available in four country versions, allows employees, via the Internet, to manage their own personnel data and execute their own personnel transactions, such as changes in benefits enrollment, address changes, time collection and tax withholding.

#### **New Dimension Products**

In 1998, the Company announced the introduction of its New Dimension products, a series of independent business solutions which can be utilized as integrated components with the R/3 System or on a stand-alone basis. The New Dimension family of products initially include: (i) supply chain management applications; (ii) customer relationship management applications; (iii) business intelligence software; and (iv) electronic commerce products. The New Dimension products initiative is ongoing, and there can be no assurance that the Company will be able to complete or implement the products or product enhancements contemplated by this initiative. It is anticipated that the Company will develop and offer additional independent business solutions based on market requirements.

*Supply Chain Management Applications.* Made generally available for shipment to customers at the end of 1998, *SAP Advanced Planner and Optimizer* (“*SAP APO*”) is a suite of advanced supply chain planning applications and tools for use in real-time supply chain planning and decision support. *SAP APO* includes advanced forecasting and demand planning tools, supply network planning and deployment tools, production planning and detailed scheduling tools and global “available-to-promise” functionality for matching product supply with customer demand.

*Customer Relationship Management Applications.* The Company’s customer relationship management initiative is dedicated to the development of best-of-breed software solutions for the front-office business environment. At the present time, the customer relationship management initiative includes *SAP Sales*, *SAP Service* and *SAP Marketing*. *SAP Sales* allows businesses to simplify and automate their full sales cycle, including lead qualification, opportunity management, quotation management, product configuration, order entry and order status and delivery tracking. Also included in *SAP Sales* is specific functionality for telesales, mobile sales and online stores (for Web-based sales). *SAP Service* provides the essential customer support tools for a service organization, including call center support, repairs and returns, parts availability, scheduling, dispatching and field service, management of service agreements and installed base management. *SAP Mar-*

keting automates and targets an organization's marketing efforts. *SAP Marketing* includes functionality for marketing analysis, database marketing, sales forecasting, sales pipeline management and marketing campaign management. *SAP Sales* and *SAP Service* were delivered to early customers in March 1999.

**Business Intelligence Software.** The Company's business intelligence initiative is aimed at the development of applications and tools which permit an organization to collect, analyze and report on all available enterprise information on an effective and efficient basis. Presently, the Company's business intelligence products include *SAP Business Information Warehouse*, *SAP Strategic Enterprise Management* and *SAP Knowledge Management*. *SAP Business Information Warehouse*, made generally available to customers in 1998, is a complete data warehouse solution, including predefined analysis tools, reporting templates and customizable GUIs. *SAP Business Information Warehouse* tools are defined for the specific needs of particular industries, and the product offers industry-specific business content such as pre-fabricated reports and an administrator workbench for the creation of customized business content, reports and analysis tools. *SAP Strategic Enterprise Management*, scheduled for release in the second half of 1999, is a set of tools and processes for value-based management, and includes business planning and simulation, business consolidation, external business information collection, performance analysis and monitoring and stakeholder relationship management. *SAP Knowledge Management* aims to provide customers with the tools, content and services necessary to make business intelligence and training programs and materials available across their organizations. Currently, with *SAP Information Database*, customers can access and utilize the Company's collection of project-team, end-user and role-based training materials and software.

**Electronic Commerce Products.** In March 1999, *SAP Business-to-Business Procurement* ("SAP B2B Procurement") became generally available. *SAP B2B Procurement* facilitates the processes associated with the procurement of both goods and services for maintenance, repair and operations, covering all processes from the creation of a purchase requisition to remittance. *SAP B2B Procurement* includes a customized browser for user desktops, an electronic catalog and catalog content for the development of customized catalogs and the necessary applications, tools and open interfaces for automation of procurement business processes over an intranet or the Internet. As part of the Company's mySAP.com initiative, additional electronic commerce applications for business-to-business selling and business-to-consumer selling, including *SAP Online Store*, are being developed and enhanced by the Company.

### **Industry Specific Products**

The Company believes that the R/3 System's initial acceptance in various markets was due to a software architecture that was industry-neutral and that contained standardized software with cross-industry components. While the Company has focused on integrating business processes from many different industry sectors into a standard software solution, it has also developed Industry Specific Products. As part of this initiative, the Company has developed SAP Solution Maps for various industries, which are comprehensive models that articulate the requirements as well as the Company's product plans for Industry Specific Products. Developed by the Company with the cooperation of its customers, its partners and industry experts, SAP Solution Maps identify the entire business solution for the specified industry, incorporating current and anticipated future requirements. The Company incorporates the domain expertise of its alliance partners and its customers into the Company's applications in order to expand the breadth of SAP Software Products and to meet industry-specific requirements. Industry Specific Products also reduce the need for customization of other SAP Software Products in the applicable industries.

In 1998, the Company established the following six Industry Sectors in order to focus the Company's product development efforts on key industries and to provide best-business practices and integrated business solutions specific to those industries: (i) process industries; (ii) discrete manufacturing; (iii) fast-moving consumer goods; (iv) utilities and communication; (v) financial services and service providers; and (vi) public sector. The Company's related Industry Specific Products currently include the following: *SAP Aerospace & Defense*; *SAP Automotive*; *SAP Banking*; *SAP Chemicals*; *SAP Consumer Products*; *SAP Engineering & Construction*; *SAP Healthcare*; *SAP High Tech*; *SAP Higher Education and Research*; *SAP Insurance*; *SAP Media*; *SAP Mill Products*; *SAP Oil & Gas*; *SAP Pharmaceuticals*; *SAP Public Sector*; *SAP Retail*; *SAP Service Provider*; *SAP Telecommunications*; *SAP Transportation*; and *SAP Utilities*. Industry Sectors are

intended to develop and globally facilitate “best-in-class” industry solutions, while utilizing the R/3 System’s core technology and providing rollout, pre-sales, sales and post-sales support around the world.

### **Comprehensive Internet Offerings; mySAP.com Initiative**

The Company offers a variety of business applications enabled for Internet use. Since 1996, the Company has offered Internet-enabled applications within the R/3 System. The Company’s *Employee Self-Service* applications, which permit employees to perform expense reimbursement, employee benefit processes, internal purchase requisition processing and a host of other business processes with an Internet browser, have nearly three million users worldwide. The Company has also shipped products such as *SAP Online Store* and *SAP Retail Store*, which control business processes between vendors and retail customers over the Internet. Pandesic LLC, a joint venture between the Company and Intel Corp., markets a complete front- and back-office solution (including Internet and application hosting services) for electronic commerce.

In May 1999, the Company announced its mySAP.com Internet business strategy. mySAP.com is comprised of four key elements: (i) mySAP-Employee Workplace, a personalized, role-based user interface; (ii) mySAP.Business Scenarios, business applications for the Internet and intranets; (iii) the Company’s www.mySAP.com portal; and (iv) hosting of SAP Software Products on the Internet. mySAP-Employee Workplace, prepared with results from the Company’s EnjoySAP initiative, empowers customer employees with role-specific services and scenarios and a host of new personalization and simplification capabilities. mySAP.Business Scenarios represents a host of new Internet business applications tailored to specific roles within an organization and initially will include *SAP B2B Procurement*, *SAP Business-to-Business Selling*, *SAP Business-to-Consumer Selling* (including *SAP Online Store* and *Pandesic*) and an enhanced *SAP Employee Self Service*. The Company’s www.mySAP.com portal is a blend of software applications, services, information content and Internet infrastructure technology. The site will host industry-specific and cross-industry directories to help companies conduct secure business transactions, trading and communications in an Internet marketplace. The Company also plans to target medium- and smaller-sized businesses by offering Internet-based application hosting services through its mySAP.com portal.

### **Complementary Software Program**

In order to offer its customers enhanced flexibility, the Company has introduced the “Complementary Software Program” to promote the integration of third-party software with SAP Software Products through one thousand currently available BAPIs developed by the Company, which enable multiple outside parties’ application components to function with SAP Software Products. Through its own distribution channels, the Company also offers its customers certain complementary third-party software products in conjunction with the Company’s products.

### **Alliance Partnerships**

While the Company generally handles its own marketing, sales, distribution and technical support training, it supplements certain of its consulting and support services through “alliance partnerships” with hardware and software vendors, systems integrators and third-party consultants. The Company also establishes alliance partnerships with smaller systems integrators and third-party consultants, with the goal of providing customers with a wide selection of third-party competencies. The role of the alliance partners in the support of SAP Software Products ranges from pre-sales consulting about business re-engineering to implementation of SAP Software Products within the customer’s business, to project management and end-user training for customers and, in the case of certain hardware and software vendors, to technology support.

### **Year 2000 Compliance of SAP Software Products**

The Company has performed extensive testing to validate that current versions of the R/3 System and the R/2 System are Year 2000 compliant. These testing processes were monitored and certified by the RW Technischer Überwachungs Verein e. V. (RWTÜV) to verify that such testing processes were sufficient to determine that such software products are Year 2000 compliant. While current versions of the R/2 System

were determined to be Year 2000 compliant based upon these testing processes, certain outdated versions of the R/2 System may require an upgrade to be made Year 2000 compliant. Additionally, while current versions of the R/3 System were determined to be Year 2000 compliant based upon these testing processes, certain outdated versions of the R/3 System may require an upgrade to resolve certain Year 2000 compliance issues arising from the integration of such versions of the R/3 System with third-party database software or third-party operating system software. Based upon the information collected by the Company to date, only a small minority of the Company's customers have in productive use such outdated versions of the R/3 System which require an R/3 System upgrade. Certain other R/3 System customers may only require a minor update, which generally can be completed in several hours, to resolve Year 2000 compliance issues relating to third-party database or operating system integration. In limited cases where a customer is required to upgrade its third-party database or third-party operating system for Year 2000 compliance of these third-party products, a minor update of the R/3 System may be required to integrate it properly with such third-party products.

The Industry Specific Products and independent business solutions have been designed and developed to be Year 2000 compliant, and have been or are being tested internally by the Company to verify that such software products are Year 2000 compliant.

The SAP Software Products, including the Systems, were developed to function directly with database software, computer operating systems and other complementary computer software and hardware products developed and maintained by independent third-party vendors. While such independent vendors may provide information with respect to the Year 2000 compliance of their respective products, the Company has not tested such third-party products to verify that they are Year 2000 compliant.

Except as set forth above, the Company does not expect any Year 2000 compliance issues to arise related to the Systems or the other SAP Software Products. However, there can be no assurance that the Systems, the other SAP Software Products or complementary third-party products that interact with SAP Software Products will operate properly in the Year 2000. Such failure of the Systems, the other SAP Software Products or complementary third-party products to be Year 2000 compliant could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. See "Item 9. Management's Discussion and Analysis of Financial Condition and Results of Operations — Year 2000 Compliance."

### **Euro Currency**

Effective January 1, 1999, the euro was introduced in the 11 member states of the European Union currently participating in the EMU as a common legal currency among those states for "paperless" transactions, pending the substitution of euro bank notes and coins for the national currencies of the participating member states between January 1, 2002 and July 1, 2002. Effective July 1, 2002, the euro will be the official legal tender for the participating member states, and the national currencies of those member states will be withdrawn from circulation. As a result, computer software used by many companies headquartered or maintaining a subsidiary in a participating EMU country is expected to be euro-enabled, and in less than four years all companies headquartered or maintaining a subsidiary in a participating EMU country must be euro-enabled.

The transition to the euro involves changing budgetary, accounting and fiscal systems in companies and public administration, as well as the simultaneous handling of parallel currencies and conversion of legacy data. The R/3 System and the R/2 System are designed to fully accommodate the implementation of the euro. The Company's euro solution offers functionality which converts existing R/3 System and R/2 System environments to the euro and handles the dual currency phase-in (occurring between January 1, 1999 and July 1, 2002) by enabling applications to present values in both the euro and the customer's national currency. The Company shipped euro-compliant software to its customers ahead of the introduction of the euro, which meant that its customers can use the euro as their transaction and local currency. Among the first to benefit were all nine central banks of the German central states, which carried out problem-free changeovers to the euro on January 3, 1999. Effective as of January 1, 1999, the Company adopted the euro as its financial

accounting and reporting currency. See “Item 9. — Management’s Discussion and Analysis of Financial Condition and Results of Operations — Euro Currency.”

## **Research and Development**

In order to meet the changing requirements of its customers and to incorporate improved technology, the Company must continually enhance, develop and improve its business software solutions and services. Since its inception, the Company has devoted significant resources to research and development. Research and development expenses for the years ended December 31, 1998, 1997, and 1996 were DM 1,121.7 million, DM 701.8 million and DM 505.5 million, respectively. Research and development expenses as a percentage of sales revenues were 13.3%, 11.7% and 13.6% for the years ended December 31, 1998, 1997 and 1996, respectively. During each of 1998, 1997 and 1996, the percentage of total employees devoted to research and development was 25.0%, 22.4% and 22.4%, respectively. A major focus of the research and development effort has been to anticipate and use technological changes in the data processing industry to develop new business solutions. The Company has also entered into agreements with a number of leading computer software and hardware vendors and telecommunications providers to cooperate to enable certain of the software and hardware products produced by such vendors to be compatible with the Company’s products.

Significant areas of current and future research and development expenditures include: (i) the mySAP.com Internet and the EnjoySAP initiatives; (ii) developing enhancements to the R/3 System by adding new components and expanding existing applications with broader functionality (including Internet capabilities); (iii) developing and enhancing the New Dimension products; (iv) developing and enhancing the Industry Specific Products; and (v) enhancing the flexibility and openness of the R/3 System architecture through broader integration capabilities with distributed business systems and through access to business content provided by third parties.

The Company maintains research and development facilities in Germany, the United States, Japan, India, France and Russia. The Company intends to open additional research and development facilities in order to diversify the locations of its research and development facilities, to maximize efficient use of localized resources and to leverage access to industry expertise and customers.

## **Services**

The Company has refocused and expanded its consulting, support and training organization over the last several years. At December 31, 1998, approximately 46% of the Company’s employees were committed to consulting, support and training services. Release 4.0 of the R/3 System provides customers with broader online access to information and new implementation tools to assist customers in trouble-shooting as well as customizing the R/3 System to specific business needs. Similar support services and tools are offered by the Company for other SAP Software Products. Along with its integrated software products, the Company offers, and charges separately for, consulting, support and training services which include: (i) business consulting; (ii) implementation services; (iii) customer employee training; and (iv) ongoing information services and maintenance.

### *Business Consulting*

After licensing a SAP Software Product to a customer, Company employees with specialized knowledge advise the customer’s “project team” and support the customer in project planning, usage tests, analyses, organizational consulting, system adaptation, system optimization, release change, system implementation and interface setup.

### *Implementation Consulting Services*

Over the past two years, the Company has undertaken several initiatives designed to assist customers in achieving faster, less costly and more efficient implementation of their R/3 System. AcceleratedSAP, designed to speed the implementation of the R/3 System, became available in English to customers worldwide

in June 1997, and in 1998 the Company released French, German and Spanish versions of AcceleratedSAP. The Company has released, and will continue to release, industry-specific versions of AcceleratedSAP.

The Company has also established the TeamSAP initiative, which is designed to coordinate the personnel, products and processes necessary for the implementation of SAP Software Products. TeamSAP plays an ongoing role in maintaining and continuously improving a customer's SAP Software Products even after implementation. As part of the TeamSAP initiative, the Company certifies third-party hardware and software vendors involved in the implementation of SAP Software Products. The Company delivers its SAP GoingLive Check and SAP Early Watch services to facilitate implementation and efficient utilization of the Company's solutions.

#### *Training of Customers' Employees*

For successful implementation of SAP Software Products, knowledge of their scope and functionality is essential. The Company has expanded and enhanced its training services and considers its training services to be a strategic element of its core business.

Generally, the Company focuses on training project team members of its customers. Project team members typically train end-users, frequently with the support of the Company and its implementation partners. The Company offers training at 85 training facilities worldwide. Training is also provided at customer locations, at the option of the customer.

The Company has expended substantial resources to expand its training curriculum, to employ technology to enhance the effectiveness of its training services and to offer more flexibility in the delivery of its training services. The Company offers R/3 System training for project teams and end-users, and has begun to offer additional training services relating to Industry Specific Products and certain third-party complementary software. The Company has also expanded its training services to include workshops for customers and for partners addressing business functions as they relate to SAP Software Products. To enhance the effectiveness of training, the Company has developed new technologies such as interactive computer-based training modules and direct customer access to an R/3 System information database. In order to offer its customers more flexibility in training, the Company offers its customers "portable classrooms" which permit training to be accomplished at customers' or other designated locations, and it is planning to enhance its Internet-accessible training components.

#### *Information Services and Maintenance*

The Company performs maintenance services which provide the customer with technical support, including telephone hotline and remote online support for the Company's products, assistance in resolving problems, the provision of user documentation, updates for software products, and new releases, versions and correction levels. The Company also provides its customers with an online software system supported in a "bulletin board" format, permitting customers to monitor the progress of their requests for assistance, to access information about the solutions provided to other customers and to obtain information such as release planning, application descriptions, Company publications and training course dates. SAP EarlyWatch provides a worldwide remote monitoring and diagnosis service for the R/3 System. Access to information about the Company and its solutions are available on the Company's homepage on the Web, which is found at "www.SAP.com." Portions of SAPNet, the Company's company-wide intranet, are accessible by customers, partners and vendors of the Company.

As part of the maintenance for SAP Software Products, each customer is provided with a telephone hotline number which project team members can use to ask questions or to receive assistance when experiencing difficulties with SAP Software Products. Trained personnel are available 24 hours per day, seven days per week. If a customer is experiencing difficulties which cannot be solved over the telephone, the customer may "dial-in" its organization's computer system to provide the Company's technicians with online access to the customer's computer system.

## **Marketing and Distribution**

The Company seeks to market its solutions to a broadening customer base. In implementing its marketing strategy, the Company has expanded its distribution channels to meet the increased demand for its products and services. The Company markets its products and services through its direct sales organization as well as through certain indirect distribution channels.

### *Direct Sales Organizations*

In Germany, the Company markets its products and services primarily through its own direct sales and support force. The Company's primary sales and support groups are based in the Company's headquarters in Walldorf and in field offices located in Berlin, Hamburg and Hannover and in suburban Munich and Düsseldorf. Outside of Germany, the Company primarily utilizes its network of approximately 55 operating subsidiaries to market and distribute its products and services. Most of the subsidiaries have entered into license agreements with the Company pursuant to which the subsidiary acquires the right to sublicense the Company's products to customers within a specific territory and agrees to provide primary support to those customers. Under these agreements, the subsidiaries retain a certain percentage of the revenues generated by the sublicensing activity. In certain countries, including Greece, Saudi Arabia and Turkey, the Company has established distribution agreements with independent resellers rather than with subsidiaries.

In late 1998, the Company reoriented its operations (including its direct sales organization) to the following six Industry Sectors dedicated to providing complete business solutions for specified industries: (i) process industries; (ii) discrete manufacturing; (iii) fast-moving consumer goods; (iv) utilities and communication; (v) financial services and service providers; and (vi) public sector. These Industry Sectors will be responsible for the entire sales, delivery and implementation process with their respective customers.

### *Indirect Distribution Channels*

The Company has developed an independent sales and support force through the establishment of value-added resellers who assume responsibility for the implementation and support of SAP Software Products licensed by them, including ongoing telephone hotline support. The Company provides these value-added resellers with product information, a project demonstration system license, a second tier of customer hotline support and certain other product and services resources, including, for a separate fee, Company consultants. The value-added resellers primarily market SAP Software Products to smaller-sized businesses (*i.e.*, generally those with annual revenues below U.S.\$200 million per year) not currently serviced by the Company's direct sales force. In addition, the Company has entered into strategic alliances with certain major systems integration firms, telecommunications firms and computer hardware providers to offer certain SAP Software Products to medium- and smaller-sized companies as a component of outsourcing offerings.

## **Competitive Environment**

The Company competes with other companies engaged in the research, development and marketing of standard business application software and associated applications development tools, decision support products and services. This market is intensely competitive. The Company has global, regional and local competitors. Some of the Company's competitors and many of the Company's potential competitors are involved in a wider range of business, and some competitors and potential competitors have a larger installed customer base for their products and services or have significantly greater financial, technical, marketing and other resources than the Company. While the Company believes it is well positioned to compete successfully in its market, there can be no assurance that the Company will be able to compete successfully. See "Item 9: Management's Discussion and Analysis of Financial Condition and Results of Operations — Factors That May Affect Future Results and Market Price of Stock — Competitive Environment; Rapid Technological Change."

## **Intellectual Property, Proprietary Rights and Licenses**

The Company relies on a combination of the protections provided by applicable trade secret, copyright, patent and trademark laws, license and non-disclosure agreements and technical measures to establish and protect its rights in its software products. See “Item 9: Management’s Discussion and Analysis of Financial Condition and Results of Operations — Factors That May Affect Future Results and Market Price of Stock — Dependence on Proprietary Technology.”

The Company generally licenses its products to customers on a “right-to-use” basis pursuant to a perpetual license. These license agreements are generally in standard form, although each license is individually negotiated and may contain variations. The licenses generally restrict the use of SAP Software Products to authorized users, which may include (usually on a screen-only basis) access by a customer’s dealers, distributors and suppliers, and prohibit a customer from disseminating or distributing SAP Software Products to any unauthorized person. The licenses are generally non-transferable or, if transferable, the transfer is subject to the Company’s reasonable approval. SAP Software Products are licensed to end-users not only by the Company but also by independent third-party distributors. Although the Company seeks to establish the conditions under which such distributors license its products, there can be no assurance that such distributors do not use other conditions. Some of the SAP Software Products contain third-party intellectual property that the Company licenses or otherwise acquires.

SAP Software Products are generally provided to end-users in object code and certain source code. In addition, licensed end-users of SAP Software Products can be beneficiaries of a master source code escrow for its products, pursuant to which the source code will be released to end-users upon the occurrence of certain events, such as the commencement of bankruptcy or insolvency proceedings by or against the Company, or certain material breaches of the license agreement by the Company. The Company has the right to object to the release of source code in any such circumstance, and to submit the matter to dispute resolution procedures. In the event of any release of the source code from escrow, the end-user’s license is limited to use of the source code to maintain, support and customize SAP Software Products.

The Company actively pursues trademark registrations in countries in which SAP Software Products are licensed and used and in which its services are performed. The Company believes that, except as disclosed below in this paragraph, the trademarks which are material to its business are registered in the countries in which the Company has significant sales. SAS Institute, Inc. (“SAS”), a U.S. software company located in North Carolina, has opposed SAP’s effort to register the “SAP” trademarks in the United States, claiming a likelihood of confusion between the SAP trademarks and SAS’s previously registered trademarks. SAP disagrees with this contention and, in addition, has filed counterclaims relating to certain registered trademarks held by SAS. While there can be no assurance that the Company will be successful in its efforts to register the SAP trademarks in the United States, the Company believes that an adverse determination in this matter will not have a material adverse effect upon the Company’s business, financial condition, results of operations or cash flows. See “Item 3. Legal Proceedings.”

## **Employees**

At December 31, 1998, the Company employed 19,308 persons worldwide, of which 10,960 (56.8%) were in the Europe, Middle East and Africa (“EMEA”) region, 5,984 (31.0%) were in the Americas region and 2,364 (12.2%) were in Asia-Pacific region. Of such employees, 9,570 (49.6%) were in customer service and support, 4,818 (25.0%) were in research and development, 3,503 (18.1%) were in sales and marketing and 1,164 (6.0%) were in general and administrative. Sales revenues per average employee equaled DM 488,674 for the year ended December 31, 1998, down from DM 520,632 for the year ended December 31, 1997.

None of the Company’s employees is subject to a collective bargaining agreement. The Company has never experienced a work stoppage and believes that its employee relations are excellent.

The Company’s success is dependent upon its ability to attract and retain highly skilled managerial, research and development, technical (*e.g.*, consulting and customer support) and marketing personnel. There can be no assurance that the Company will be successful in attracting and retaining such personnel, and the

failure to attract and retain such personnel could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. See "Item 9: Management's Discussion and Analysis of Financial Condition and Results of Operations — Factors That May Affect Future Results and Market Price of Stock — Hiring and Retention of Employees."

**Item 2. Description of Property.**

The Company's principal administrative, marketing and sales, training, customer support and research and development facilities are located in Walldorf, Germany, 60 miles south of Frankfurt. The Company owns its principal Walldorf facilities, which are currently being expanded. The Company is in the process of constructing a new U.S. headquarters, which it will own, for its Americas regional operations in Newtown Square, Pennsylvania. The building is expected to be completed in June 1999 and will be approximately 400,000 square feet. The Company owns sufficient undeveloped land to expand the facilities in Newtown Square as required.

The location of each of the Company's other facilities in excess of 40,000 square feet, all of which are leased (unless otherwise indicated), is set forth below:

<u>Germany</u>	<u>United States</u>	<u>Austria</u>	<u>Brazil</u>
Alsbach (owned)	Newtown Square, PA	Vienna	São Paulo
Munich	Lester, PA		
Ratingen	Palo Alto, CA		
St. Ingbert (owned)	Waltham, MA		
St. Leon-Rot (owned)	Chicago, IL		
	Foster City, CA		
	Tinicum, PA		
	Atlanta, GA		
<u>Czech Republic</u>	<u>Canada</u>	<u>France</u>	<u>Italy</u>
Prague	North York, Ontario	Paris	Agrate Brianza
<u>Japan</u>	<u>The Netherlands</u>	<u>Singapore</u>	<u>South Africa</u>
Tokyo	's-Hertogenbosch	Singapore	Johannesburg
<u>Spain</u>	<u>Sweden</u>	<u>Switzerland</u>	<u>United Kingdom</u>
Madrid	Stockholm	Biel (owned)	Feltham (owned)
			Manchester
			Waybridge
			London
			Hayes

The Company believes that its facilities are in good operating condition and adequate for their present and anticipated usage.

### Item 3. *Legal Proceedings.*

On September 8, 1992, SAS initiated proceedings with the U.S. Patent and Trademark Office in Washington, D.C. in opposition to SAP's application to register the "SAP" trademark. SAS argues in its petition that there is a likelihood of confusion by consumers between its trademark, "SAS," and the "SAP" trademark. SAP disagrees with this contention and, in addition, has filed counterclaims relating to certain registered trademarks held by SAS. To date, the SAS opposition action as well as SAP's counterclaims are pending with the Trademark Trial and Appeal Board. While there can be no assurance that SAP will be successful in its efforts to register the "SAP" trademark in the United States, the Company believes that an adverse determination in this matter would not have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

In 1994, the Company sponsored the 1994 Program (see "Item 12. Options to Purchase Securities from Registrant or Subsidiaries — 1994 Bonds"). In late July 1996, a lawsuit was filed by a German shareholders' advocacy group, *Schutzgemeinschaft der Kleinaktionäre e.V.* ("SdK"), against SAP in the trial court in Heidelberg, Germany. The SdK was seeking the voidance of two resolutions of SAP's 1996 annual general shareholders' meeting regarding the general approval of the Executive Board's actions during the previous business year (*Entlastung*) and the authorization of the Executive Board to convert the 1994 Bonds (see "Item 12. Options to Purchase Securities from Registrant or Subsidiaries — 1994 Bonds") from registered to bearer form. In its complaint, the SdK alleged, among other things, that: (i) the parties to the Pooling Agreement (see "Item 4. Control of Registrant") constituted an entity controlling SAP pursuant to the provisions of the German Stock Corporation Act; (ii) the shareholders of SAP were misled by its Executive Board in connection with the resolution authorizing the Executive Board to convert the 1994 Bonds from registered to bearer form and the authorization for such conversion allowed principal shareholders and Executive Board members to profit from such conversion at the expense of the minority shareholders and Company employees; and (iii) the Executive Board did not completely answer shareholders' questions at the 1996 annual general shareholders' meeting and thereby violated its duty to provide information. On September 24, 1997, the Heidelberg trial court dismissed the suit. The SdK has since filed an appeal with the appeals court in Karlsruhe, Germany. Arguments were made to the court and a decision is pending. While there can be no assurance that SAP will be successful on appeal, SAP believes that an adverse determination in this matter would not have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

In December 1996, certain employees of SAP became the subject of independent insider trading investigations by the German Federal Supervisory Office for Securities Trading (*Bundesaufsichtsamt für den Wertpapierhandel*) and the Frankfurt criminal prosecutor's office. In early September 1998, the Frankfurt criminal prosecutor's office announced that its investigation into alleged insider trading by two employees (including a member of the Executive Board) and one former employee of the Company had been suspended on the condition of payment (*Einstellung gegen Auflage*) pursuant to the German Criminal Procedure Regulation (*Stafprozessordnung*). In early April 1999, the Frankfurt criminal prosecutors office dismissed the criminal proceedings against 28 other persons. Investigations by the Frankfurt criminal prosecutors office with respect to three additional persons, as well the investigation of the Federal Supervisory Office for Securities Trading, remain pending in this matter. In addition, the Federal Supervisory Office for Securities Trading announced in January 1999 that it had initiated an investigation regarding possible insider trading prior to the release on January 5, 1999 of the Company's preliminary results for 1998. To the Company's knowledge, the Company has never been the target of any such investigations. The Company is cooperating with all such investigations. Although the outcome of such investigations and claims cannot be predicted with certainty, the Company believes that any resulting adverse judgments against one or more of the persons under investigation would not have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

On August 24, 1998, the bankruptcy trustee for FoxMeyer Corporation, FoxMeyer Drug Company ("FoxMeyer"), Healthcare Transportation System, Inc., Merchandise Coordinator Services Corporation, FoxMeyer Software, Inc. and Health Mart, Inc. filed a complaint with the U.S. District Court in Delaware against SAP and its U.S. subsidiary, SAP America, Inc. The complaint alleges that FoxMeyer, a pharmaceu-

tical wholesaler, licensed the R/3 System, but that the software failed to perform properly and allegedly damaged FoxMeyer's business, and that such failure was a significant factor contributing to FoxMeyer's bankruptcy in 1996 and its subsequent liquidation. The complaint asserts claims of breach of contract, breach of express and implied warranties, fraud, negligent misrepresentation, negligence and promissory estoppel, and requests damages in an amount in excess of \$500 million, punitive damages, court costs, expenses and reasonable attorneys' fees, pre-judgment and post-judgment interest, and such other relief as the court deems just and proper. On October 20, 1998, SAP and SAP America, Inc. filed a motion to dismiss the complaint and filed a separate motion to strike the bankruptcy trustee's statement of its damage claim. The bankruptcy trustee has opposed the motion to dismiss and has indicated a willingness to enter into a stipulation to amend the complaint to resolve the objections to the statement of its damage claim. At the same time the complaint was filed by the bankruptcy trustee in federal court, the bankruptcy trustee commenced an arbitration against SAP America, Inc. with the American Arbitration Association in New York asserting essentially the same claims asserted in the complaint filed in federal court. The parties have agreed to stay the arbitration proceedings indefinitely, pending the resolution of the federal court action. While the ultimate outcome of these matters cannot presently be determined with certainty, the Company believes that the bankruptcy trustee's claims in the federal court and arbitration actions are without merit. The Company is vigorously defending against the claims, and believes that these actions are not likely to have a material adverse effect on its business, financial condition, results of operations or cash flows.

The Company is also subject to other legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business. Although the outcome of these proceedings and claims cannot be predicted with certainty, management does not believe that the outcome of any of these matters will have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. Any litigation, however, involves potential risk and potentially significant litigation costs, and therefore there can be no assurance that any litigation which is now pending or which may arise in the future would not have such a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### **Item 4. Control of Registrant.**

The share capital of SAP consists of the Ordinary Shares and the Preference Shares. At April 15, 1999, the issued share capital of SAP amounted to EUR 267,314,897, consisting of 61,000,000 Ordinary Shares and 43,564,499 Preference Shares.

The Ordinary Shares and the Preference Shares are issued only in bearer form. Accordingly, SAP generally has no way of determining who its shareholders are or how many shares a particular shareholder owns. However, under Section 21 of the German Securities Trading Act (*Wertpapierhandelsgesetz*) holders of voting securities of a German company admitted to official trading on a stock exchange within the European Union or the European Economic Area are obligated to notify a company of the level of their holdings whenever such holdings reach, exceed or fall below certain thresholds, which have been set at 5%, 10%, 25%, 50% and 75% of a company's outstanding voting rights.

To its knowledge, SAP is not owned or controlled directly or indirectly by any government or by any other corporation. The following table sets forth certain information regarding the beneficial ownership of the Ordinary Shares and the Preference Shares at April 15, 1999 of: (i) each person or group known by SAP to own beneficially 10% or more of the outstanding Ordinary Shares or Preference Shares; and (ii) the beneficial ownership of all members of the Supervisory Board and all members of the Executive Board, as a group, in each case as reported to SAP by such persons.

<u>Principal Shareholders</u>	<u>Ordinary Shares Beneficially Owned</u>		<u>Preference Shares Beneficially Owned</u>	
	<u>Number</u>	<u>% of Outstanding</u>	<u>Number</u>	<u>% of Outstanding</u>
Dietmar Hopp				
Chairman, Supervisory Board .....	14,892,000 <sup>(1)</sup>	24.4%	—	—
Dietmar Hopp Stiftung GmbH <sup>(2)</sup> .....	9,339,100	15.3%	—	—
Prof. Dr. h.c. Hasso Plattner				
Co-Speaker, Executive Board .....	12,513,500 <sup>(3)</sup>	20.5%	*	*
Hasso Plattner GmbH & Co.				
Beteiligungs-KG <sup>(4)</sup> .....	10,413,500	17.1%	—	—
Hasso Plattner Förderstiftung, gGmbH <sup>(5)</sup> .....	2,100,000	3.4%	—	—
Dr. h.c. Klaus Tschira				
Member, Supervisory Board .....	11,592,350 <sup>(6)</sup>	19.0%	*	*
Klaus Tschira Stiftung gGmbH <sup>(7)</sup> .....	7,051,600	11.6%	—	—
Pooling Shareholders <sup>(8)</sup> .....	30,500,100	50.0002%	**	**
Executive Board Members and Supervisory Board Members, as a group (17 persons) .....	39,001,359	63.937%	2,120,783	4.9%

\* Less than 10%.

\*\* Not applicable. See note (8) below.

- (1) Includes: (i) 3,832,400 Ordinary Shares owned in the aggregate by Mr. Hopp's immediate family; and (ii) 9,339,100 Ordinary Shares owned by Dietmar Hopp Stiftung GmbH, as to which Mr. Hopp exercises sole voting and dispositive power. Mr. Hopp disclaims beneficial ownership with respect to such Ordinary Shares owned by his immediate family. Mr. Hopp is a party to the Pooling Agreement described in note (8) below.
- (2) Effective January 1, 1996, Mr. Hopp transferred 9,339,100 Ordinary Shares to the Dietmar Hopp Stiftung GmbH, a non-profit foundation. The Dietmar Hopp Stiftung GmbH is a party to the Pooling Agreement described in note (8) below.
- (3) Consists of: (i) 10,413,500 Ordinary Shares owned by Hasso Plattner GmbH & Co. Beteiligungs-KG, as to which Dr. Plattner exercises sole voting and dispositive power; and (ii) 2,100,000 Ordinary Shares owned by Hasso Plattner Förderstiftung, gGmbH, as to which Dr. Plattner exercises sole voting and dispositive power. Effective as of December 7, 1998, Dr. Plattner was no longer a party to the Pooling Agreement described in note (8) below, and the Hasso Plattner GmbH & Co. Beteiligungs-KG and the Hasso Plattner Förderstiftung, gGmbH became parties to such Pooling Agreement.
- (4) Effective December 7, 1998, Dr. Plattner transferred 10,413,500 Ordinary Shares to the Hasso Plattner GmbH & Co. Beteiligungs-KG, an investment partnership. Dr. Plattner owns a 100% partnership interest in and controls the Hasso Plattner GmbH & Co. Beteiligungs-KG. The Hasso Plattner GmbH & Co. Beteiligungs-KG is a party to the Pooling Agreement described in note (8) below, and 7,582,500 such Ordinary Shares are subject to the Pooling Agreement described in note (8) below.
- (5) Effective December 7, 1998, Dr. Plattner transferred 2,100,000 Ordinary Shares to the Hasso Plattner Förderstiftung, gGmbH, a non-profit foundation. The Hasso Plattner Förderstiftung, gGmbH is a party to the Pooling Agreement described in note (8) below.
- (6) Includes: (i) 705,000 Ordinary Shares owned in the aggregate by Dr. Tschira's immediate family; and (ii) 7,051,600 Ordinary Shares owned by Klaus Tschira Stiftung gGmbH, as to which Dr. Tschira exercises shared voting and dispositive power. Dr. Tschira disclaims beneficial ownership with respect to such Ordinary Shares owned by his immediate family. Dr. Tschira is a party to the Pooling Agreement described in note (8) below.
- (7) Effective January 1, 1996, Dr. Tschira transferred 7,051,600 Ordinary Shares to the Klaus Tschira Stiftung gGmbH, a non-profit foundation. The Klaus Tschira Stiftung gGmbH is a party to the Pooling Agreement described in note (8) below.
- (8) The Company has been informed that certain shareholders of SAP (the "Pooling Shareholders"), who in the aggregate beneficially hold 38,997,850 Ordinary Shares (which represent 63.931% of the outstanding Ordinary Shares) have entered into a pooling agreement (the "Pooling Agreement") with respect to Ordinary Shares owned by them that constitute in the aggregate 50.0002% of the outstanding Ordinary Shares (the "Pooled Shares"). Each of the individual Pooling Shareholders disclaims beneficial ownership with respect to Ordinary Shares owned by immediate family members. Pursuant to the Pooling Agreement, the Pooling Shareholders have agreed to vote their Pooled Shares jointly with respect to certain matters coming before SAP's general shareholders' meetings, including the election of the members of the Supervisory Board elected by SAP's shareholders (who comprise 50% of the members of the Supervisory Board). The Pooling Agreement contains restrictions on the transfer of the Pooled Shares to non-Pooling Shareholders and provides for a right of first refusal in the event a Pooling Shareholder wishes to transfer its Pooled Shares. Any Pooling Shareholder may terminate its participation in the Pooling Agreement by giving 12 months' notice prior to the end of a calendar year, with effect at the earliest on December 31, 1999. Effective October 12, 1998, the Pooling Agreement was amended to provide that, notwithstanding the restrictions on transfer contained in the Pooling Agreement, transfers of Ordinary Shares are permitted: (i) among Dietmar Hopp, one of his immediate family members and the Dietmar Hopp Stiftung GmbH, provided that the total number of Pooled Shares held by such persons does not fall below 11,861,600; and (ii) between Dr. Tschira and the Klaus

Tschira Stiftung gGmbH, provided that the total number of Pooled Shares held by such persons does not fall below 8,956,000. Effective December 7, 1998, the Pooling Agreement was amended to provide that Dr. Plattner was no longer a party thereto and that the Hasso Plattner GmbH & Co. Beteiligungs-KG and the Hasso Plattner Förderstiftung gGmbH became parties thereto.

## **Item 5. Nature of Trading Market.**

### **General**

The Ordinary Shares and the Preference Shares are listed on each of the Frankfurt Stock Exchange, the Berlin Stock Exchange and the Stuttgart Stock Exchange. The Ordinary Shares are also listed on each of the Geneva Stock Exchange and the Zurich Stock Exchange. In addition, the Ordinary Shares and the Preference Shares are traded in the over-the-counter markets (*Freiverkehr*) in each of Düsseldorf, Munich, Bremen, Hamburg and Hannover. The principal trading market for the Ordinary Shares and the Preference Shares is the Frankfurt Stock Exchange. The Ordinary Shares and the Preference Shares are issued only in bearer form.

Effective August 3, 1998, the ADSs were listed on the New York Stock Exchange (“NYSE”). The ADSs trade on the NYSE under the symbol SAP. The Depository for the ADSs is The Bank of New York (“Depository”) pursuant to the Amended and Restated Deposit Agreement between SAP and the Depository (the “Deposit Agreement”).

### **Trading on the Frankfurt Stock Exchange**

The Frankfurt Stock Exchange is the largest of the eight German stock exchanges. The aggregate annual turnover of the Frankfurt Stock Exchange in 1998 of DM 8.3 trillion (based on the Frankfurt Stock Exchange’s practice of separately recording the sale and purchase components involved in any trade) for both equity and debt instruments made it the fourth largest stock exchange in the world behind the NYSE, the Nasdaq Stock Market and the London Stock Exchange in terms of turnover. At December 31, 1998, the equity securities of 1,958 corporations, including 1,418 foreign corporations, were traded on the Frankfurt Stock Exchange.

Prices are continuously quoted on the Frankfurt Stock Exchange floor each business day between 8:30 a.m. and 5:00 p.m. Central European Time for the Ordinary Shares and the Preference Shares as well as for other actively traded securities. Prices for stocks are quoted continuously. In addition, an official daily quote (*Einheitspreis*) is determined for all shares by auction around mid-session of each trading day. Such official daily quote applies to smaller stock transactions. Markets in listed securities are generally of the auction type, but listed securities also change hands in inter-bank dealer markets off the Frankfurt Stock Exchange. Price formation on the Frankfurt Stock Exchange is determined by open outcry by state-appointed specialists (*amtliche Kursmakler*) who are themselves exchange members, but who do not, as a rule, deal with the public. Transactions on the Frankfurt Stock Exchange are settled on the second business day following trading. Transactions off the Frankfurt Stock Exchange (which may be the case if one of the parties to the transaction is foreign) are generally also settled on the second business day following trading (although a different period may be agreed upon by the parties). A quotation can be suspended by the Frankfurt Stock Exchange if orderly stock exchange trading is temporarily endangered or if a suspension is necessary in order to protect the public interest. Under German law, customers’ orders to buy or sell listed securities must be executed on a stock exchange unless the customer gives other specific instructions for an individual transaction or an indeterminate number of transactions.

The Ordinary Shares and the Preference Shares are traded on XETRA, a computerized trading system of the Frankfurt Stock Exchange. The trading hours for XETRA are from 8:30 a.m. until 5:15 p.m. on each business day. Securities traded on XETRA include the securities of the 30 companies comprising the *Deutsche Aktienindex* (“DAX”), the leading index of trading on the Frankfurt Stock Exchange, as well as other high-volume shares, equity warrants, government obligations and government agency securities. The Preference Shares have been included in the DAX since September 15, 1995.

The table below sets forth, for the periods indicated, the high and low closing sales prices for the Preference Shares on the Frankfurt Stock Exchange, as reported by the Deutsche Börse AG, together with the closing highs and lows of the DAX. See “Item 8. Selected Financial Data — Exchange Rates.”

	Price Per Preference Share <sup>(1)</sup>		DAX <sup>(2)</sup>	
	High	Low	High	Low
<b>1997</b>				
First Quarter . . . . .	DM 286.00	DM 210.90	DM3460.59	DM2848.77
Second Quarter . . . . .	DM 363.20	DM 268.50	DM3805.29	DM3215.24
Third Quarter . . . . .	DM 472.00	DM 358.00	DM4438.93	DM3819.85
Fourth Quarter . . . . .	DM 596.00	DM 479.10	DM4347.24	DM3567.22
<b>1998</b>				
First Quarter . . . . .	DM 807.00	DM 562.00	DM5102.35	DM4087.28
Second Quarter . . . . .	DM1230.00	DM 759.50	DM5915.13	DM5018.67
Third Quarter . . . . .	DM1315.00	DM 783.00	DM6171.43	DM4433.87
Fourth Quarter . . . . .	DM 905.00	DM 615.00	DM5121.48	DM3896.08
<b>1999</b>				
First Quarter . . . . .	EUR390.00 <sup>(3)</sup>	EUR269.00 <sup>(3)</sup>	DM5443.62	DM4678.72
Second Quarter (through May 7, 1999)	EUR364.50 <sup>(3)</sup>	EUR272.00 <sup>(3)</sup>	DM5393.11	DM4914.59

- (1) Effective June 16, 1998, SAP's share capital was converted to no nominal value shares. For periods set forth in this table prior to June 16, 1998, the Preference Share price data assumes that each DM 50 Preference Share equals ten DM 5 Preference Shares.
- (2) The DAX is a continuously updated, capital-weighted performance index of 30 German blue chip companies. In principle, the shares included in the DAX were selected on the basis of their stock exchange turnover and the issuer's market capitalization. Adjustments to the DAX are made for capital changes, subscription rights and dividends.
- (3) Commencing on January 1, 1999, the prices for Preference Shares traded on the Frankfurt Stock Exchange are denominated in euros.

The average daily volumes of Preference Shares traded on the Frankfurt Stock Exchange during the years 1997 and 1998 were approximately DM 321.6 million and DM 901.0 million, respectively. These numbers are based on total yearly turnover statistics quoted by the Deutsche Börse AG.

On May 7, 1999, the closing sales price per Preference Share on the Frankfurt Stock Exchange was EUR 349.00, as reported by the Deutsche Börse AG.

### Trading on the NYSE

At May 7, 1999, based upon information provided by the Depositary, there were 30,188,931 ADSs, representing approximately 2,515,744 Preference Shares, held of record by 612 registered holders. The Preference Shares underlying such ADSs represented 5.8% of the then-outstanding Preference Shares. Because the Preference Shares are issued in bearer form only, the Company is unable to determine the number of Preference Shares directly held by persons with U.S. addresses.

The table below sets forth, for the periods indicated, the high and low closing sales prices for the ADSs on the NYSE as reported on the NYSE Composite Tape.

	Price Per ADS	
	High	Low
(in U.S. \$)		
<b>1998</b>		
Third Quarter (commencing August 3, 1998) . . . . .	61.50	38.94
Fourth Quarter . . . . .	44.88	31.00
<b>1999</b>		
First Quarter . . . . .	37.00	23.81
Second Quarter (through May 7, 1999) . . . . .	32.75	24.63

On May 7, 1999, the closing sales price per ADS on the NYSE as reported on the NYSE Composite Tape was \$31.88.

**Item 6. Exchange Controls and Other Limitations Affecting Security Holders.**

The euro and the Mark are fully convertible currencies. At the present time, Germany does not restrict the export or import of capital, except for investments in certain areas in accordance with applicable resolutions adopted by the United Nations and the European Union. However, for statistical purposes only, every individual or corporation residing in Germany (“Resident”) must report to the German Central Bank (*Deutsche Bundesbank*), subject only to certain immaterial exceptions, any payment received from or made to an individual or a corporation resident outside of Germany (“Non-resident”) if such payment exceeds DM 5,000 (approximately EUR 2,556) (or the equivalent in a foreign currency). In addition, Residents must report any claims against or any liabilities payable to Non-residents if such claims or liabilities, in the aggregate, exceed DM 3 million (approximately EUR 1.5 million) (or the equivalent in a foreign currency) during any one month. Residents must also report any direct investment outside Germany if such investment exceeds DM 100,000 (approximately EUR 50,200). For a discussion of the treatment of remittance of dividends, interest or other payments to Non-resident holders of ADSs or Preference Shares, see “Item 7. Taxation — German Taxation of Holders of ADSs or Preference Shares.”

There are no limitations imposed by German law or the Articles of Association (*Satzung*) of SAP (the “Articles of Association”) on the right of Non-residents or foreign holders to hold the ADSs or the Preference Shares.

Holders of Preference Shares are generally not entitled to vote at general meetings of SAP’s shareholders. Under the German Stock Corporation Act (*Aktiengesetz*), the holders of Preference Shares: (i) are entitled to vote on matters affecting their preferential rights, such as changes in the rate of the preferential dividend or the issuance of additional Preference Shares or other share capital that rank equal to or above the Preference Shares; and (ii) will have the same voting rights as the holders of Ordinary Shares if (x) the preferential dividend is not paid in full for a year and (y) the shortfall is not made up in the following year or the following year’s preferential dividend is not paid in full. The voting rights will remain effective until the shortfall and all preferential dividends that fall due prior to the payment of the shortfall have been paid in full. Any vote taken on matters adversely affecting the preferential rights of the holders of Preference Shares requires a majority of 75% of votes cast in the meeting of holders of Preference Shares at which the vote is taken.

**Item 7. Taxation.**

**General**

The following discussion summarizes certain German tax and U.S. federal income tax consequences of the acquisition, ownership and disposition of ADSs or Preference Shares. Although the following discussion does not purport to describe all of the tax considerations that may be relevant to a prospective purchaser of ADSs or Preference Shares, such discussion: (i) summarizes the material German tax consequences to a holder of ADSs or Preference Shares; and (ii) summarizes the material U.S. federal income tax consequences to a U.S. Holder (as hereinafter defined) of ADSs or Preference Shares that is not resident (in the case of an individual) or domiciled (in the case of a legal entity), as the case may be, in Germany (in either case, referred to herein as “not resident” or as a “non-resident”) and does not have a permanent establishment or fixed base located in Germany through which such ADSs or Preference Shares are held.

**German Taxation of Holders of ADSs or Preference Shares**

The following discussion generally summarizes the principal German tax consequences of the acquisition, ownership and disposition of ADSs or Preference Shares to a beneficial owner. This summary is based on the laws that are in force at the date hereof and is subject to any changes in German law, or in any applicable double taxation conventions to which Germany is a party, occurring after such date. It is also based, in part, on representations of the Depositary and assumes that each obligation of the Deposit Agreement and any related agreements will be performed in accordance with its terms.

The following discussion is not a complete analysis or listing of all potential German tax consequences to holders of ADSs or Preference Shares and does not address all tax considerations that may be relevant to all categories of potential purchasers or owners of ADSs or Preference Shares. In particular, the following discussion does not address the tax consequences for: (i) a person that owns, directly or indirectly, 10% or more of SAP's shares; (ii) a holding which forms part of a German permanent establishment of a person not resident in Germany; or (iii) a person that is resident in Germany and at the same time resident in another country. **Prospective purchasers of ADSs or Preference Shares are urged to consult their own tax advisors concerning the overall German tax consequences of the acquisition, ownership and disposition thereof.**

For purposes of applying German tax law and the double tax conventions to which Germany is a party, a holder of ADSs will be treated as owning the Preference Shares represented thereby.

#### *German Taxation of Dividends*

Under German domestic income tax laws, German corporations are required to withhold tax on dividends in an amount equal to 25% of the gross amount paid to resident and non-resident shareholders. A 5.5% surtax on the German withholding tax is currently levied on dividend distributions paid by a German corporation, such as SAP. The surtax equals 1.375% (5.5% x 25%) of the gross amount of a cash dividend. Certain persons resident in Germany (e.g., qualifying investment funds or tax-exempt organizations) may obtain a partial or full refund of such taxes.

For a holder of ADSs or Preference Shares that is resident in Germany, according to German income tax law, dividends are subject to German income tax or corporation tax. For such a holder, the taxable amount will be the sum of: (i) the cash payment by SAP; (ii) the taxes withheld; and (iii)  $\frac{3}{7}$  of the sum of (i) and (ii). Subject to certain conditions, the tax withheld and the gross-up of  $\frac{3}{7}$  will be eligible for credit against the holder's income or corporation tax. If the dividend is paid out of tax-exempt foreign income, there will be neither the  $\frac{3}{7}$  gross-up of the income nor a credit for this amount. For holders subject to German Trade Tax, such tax is also imposed on the dividends received (including any gross-up).

#### *Refund of German Tax to U.S. Holders*

A partial refund of the 25% withholding tax equal to 10% of the gross amount of the dividend and a full refund of the surtax can be obtained by a U.S. Holder (as hereinafter defined) under the U.S.-German income tax treaty (Convention between the Federal Republic of Germany and the United States of America for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to taxes on Income (German Federal Law Gazette (BGBl.) 1991 II. 355)) (the "Treaty"). In addition, so long as the German imputation system provides German resident individual shareholders with a tax credit for corporate taxes with respect to dividends paid by German corporations, the Treaty provides that U.S. Holders are entitled to a further refund equal to 5% of the gross amount of the dividend. Thus, for each U.S.\$100 of gross dividends paid by SAP to a U.S. Holder, the dividends after partial refund of the 25% withholding tax and a refund of the surtax under the Treaty will be subject to a German withholding tax of U.S.\$15. If the U.S. Holder also applies for the additional 5% refund, then the German withholding tax is effectively reduced to U.S.\$10. Thus, the cash received per U.S.\$100 of gross dividends is U.S.\$90 after refund of German withholding tax from the German tax authorities.

To claim the refund of amounts withheld in excess of the Treaty rate, a U.S. Holder must submit (either directly or, as described below, through the Depositary) a claim for refund to the German tax authorities, with, in the case of a direct claim, the original bank voucher (or certified copy thereof) issued by the paying entity documenting the tax withheld, within four years from the end of the calendar year in which the dividend is received. Claims for refund are made on a special German claim for refund form, which must be filed with the German tax authorities: Bundesamt für Finanzen, 53221 Bonn, Germany. The German claim for refund form may be obtained from the German tax authorities at the same address where applications are filed, or from the Embassy of the Federal Republic of Germany, 4645 Reservoir Road, N.W., Washington, D.C. 20007-1998.

U.S. Holders must also submit to the German tax authorities certification of their most recently filed U.S. federal income tax return (IRS Form 6166). Certification is obtained from the office of the Director of the Internal Revenue Service Center by filing a request for certification with the Internal Revenue Service (“IRS”), AC/I-FIRPTA, DR 543, P.O. Box 16347, Tax Treaty Division, Philadelphia, PA 19114-0447. Requests for certification are to be made in writing and must include the U.S. Holder’s name, social security number or employer identification number, tax return form number, and tax period for which certification is requested. This certification is valid for three years and need only be resubmitted in a fourth year in the event of a subsequent application for refund.

In accordance with arrangements under the Deposit Agreement, the Depositary (or a custodian as its designated agent) holds the Preference Shares and receives and distributes dividends to the U.S. Holders. The Depositary has agreed, to the extent practicable, to perform administrative functions necessary to obtain the refund of amounts withheld in excess of the Treaty rate for the benefit of U.S. Holders who supply the necessary documentation.

Under the Deposit Agreement, the Depositary has agreed to send to the U.S. Holders of ADSs a notice explaining how to claim a refund, the form required to obtain the IRS Form 6166 certification and the German claim for refund form. The notice will describe how to obtain the certification on IRS Form 6166. In order to claim a refund, the U.S. Holder should deliver the certification provided to it by the IRS to the Depositary along with the completed claim for refund form. In the case of ADSs held through a broker or other financial intermediary, the required documentation should be delivered to such broker or financial intermediary for forwarding to the Depositary. In all other cases, the U.S. Holders should deliver the required documentation directly to the Depositary. The Depositary will file the required documentation with the German tax authorities on behalf of the U.S. Holders.

The German tax authorities will issue the refunds, which will be denominated in Marks, in the name of the Depositary. The Depositary will convert the refunds into Dollars and issue corresponding refund checks to the U.S. Holders or their brokers.

#### *Refund of German Tax to Holders of ADSs or Preference Shares in Other Countries*

A holder of ADSs or Preference Shares resident in a country other than Germany or the United States that has a double taxation convention with Germany may obtain a partial refund of German withholding taxes. Rates and procedures may vary according to the applicable treaty. For details, such holders are urged to consult their own tax advisors.

#### *Taxation of Capital Gains*

A capital gain derived from the sale or other disposition by a holder resident in Germany of ADSs or Preference Shares is taxable if the ADSs or Preference Shares are held as part of his or her trade or business or if the ADSs or Preference Shares are sold within a period of one year after acquisition.

A holder resident in a country other than Germany is not subject to German income or corporation tax on the capital gain derived from the sale or other disposition of ADSs or Preference Shares.

#### *Other German Taxes*

There are no German net worth, transfer, stamp or similar taxes on the holding, purchase or sale of ADSs or Preference Shares.

#### *German Estate and Gift Taxes*

A transfer of ADSs or Preference Shares by gift or by reason of death of a holder will be subject to German gift or inheritance tax, respectively, if one of the following persons is resident in Germany: the donor or transferor or his or her heir, or the donee or other beneficiary. If one of the aforementioned persons is resident in Germany and another is resident in a country having a treaty with Germany, regarding gift or inheritance taxes, different rules may apply. If none of the aforementioned persons is resident in Germany, the

transfer is not subject to German gift or inheritance tax. For persons giving up German residence, special rules apply during the first five years, and under specific circumstances, during the first ten years, after the end of the year in which the person left Germany. In general, in the case of a U.S. Holder, a transfer of ADSs or Preference Shares by gift or by reason of death that would otherwise be subject to German gift or inheritance tax, respectively, will not be subject to such German tax by reason of the current estate tax treaty between the U.S. and Germany unless the donor or transferor, or the heir, donee or other beneficiary, is domiciled in Germany for purposes of the current estate tax treaty between the United States and Germany at the time of the making of the gift or at the time of the donor's or transferor's death.

In general, the U.S.-German estate tax treaty provides a credit against U.S. federal estate and gift tax liability for the amount of inheritance and gift tax paid in Germany, subject to certain limitations, in a case where the ADSs or Preference Shares are subject to German inheritance or gift tax and U.S. federal estate or gift tax.

### **U.S. Taxation of U.S. Holders of Preference Shares or ADSs**

The following discussion generally summarizes certain U.S. federal income tax consequences of the acquisition, ownership and disposition of ADSs or Preference Shares to a beneficial owner: (i) who is an individual citizen or resident of the United States or a corporation organized under the laws of the United States or any political subdivision thereof; (ii) who is not resident in Germany for German tax purposes; (iii) whose holding of ADSs or Preference Shares does not form part of the business property or assets of a permanent establishment or fixed base in Germany; and (iv) who is fully entitled to the benefits of the Treaty in respect of such ADSs or Preference Shares (a "U.S. Holder").

This summary deals only with ADSs and Preference Shares that are held as capital assets and does not address tax considerations applicable to U.S. Holders that may be subject to special tax rules, such as dealers or traders in securities, financial institutions, life insurance companies, tax-exempt entities, U.S. Holders that hold Preference Shares or ADSs as a part of a straddle, conversion transaction or other arrangement involving more than one position, U.S. Holders that own (or are deemed for U.S. tax purposes to own) 10% or more of the total combined voting power of all classes of voting stock of SAP, U.S. Holders that have a principal place of business or "tax home" outside the United States or U.S. Holders whose "functional currency" is not the Dollar.

The discussion below is based upon the U.S. Internal Revenue Code of 1986, as amended (the "Code"), the Treaty and regulations, rulings and judicial decisions thereunder at the date hereof. Any such authority may be repealed, revoked or modified, perhaps with retroactive effect, so as to result in federal income tax consequences different from those discussed below. No assurance can be given that the conclusions set out below would be sustained by a court if challenged by the IRS. The discussion below is based, in part, on representations of the Depositary, and assumes that each obligation in the Deposit Agreement and any related agreements will be performed in accordance with its terms.

THE DISCUSSION SET OUT BELOW IS INTENDED ONLY AS A SUMMARY OF CERTAIN U.S. FEDERAL INCOME TAX CONSEQUENCES OF AN INVESTMENT IN ADSs OR PREFERENCE SHARES. PROSPECTIVE INVESTORS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS AS TO THE APPLICATION TO THEIR PARTICULAR SITUATION OF THE TAX CONSIDERATIONS DISCUSSED BELOW, AS WELL AS THE APPLICATION OF STATE, LOCAL OR FOREIGN TAX LAW. THE STATEMENTS OF U.S. TAX LAW SET OUT BELOW ARE BASED ON THE LAWS IN FORCE AND INTERPRETATIONS THEREOF AT THE DATE OF THIS FORM 20-F AND ARE SUBJECT TO ANY CHANGES OCCURRING AFTER THAT DATE.

For U.S. federal income tax purposes, a U.S. Holder of ADSs will be considered to own the Preference Shares represented thereby.

## *Distributions*

Subject to the discussion below under “Passive Foreign Investment Company Considerations,” distributions made by SAP with respect to Preference Shares (other than distributions in liquidation and certain distributions in redemption of stock), including the amount of German tax deemed to have been withheld in respect of such distributions, will be taxed to U.S. Holders as ordinary dividend income to the extent that such distributions do not exceed the current and accumulated earnings and profits of SAP as computed for U.S. federal income tax purposes. As discussed above, a U.S. Holder may obtain a refund of German withholding tax to the extent that the German withholding tax exceeds 10% of the amount of the associated distribution. However, for U.S. federal income tax purposes, the net cash distribution (equal to 90%) will be treated as if it had been subject to a 15% German withholding tax and will be “grossed up” accordingly. The total amount of the distribution therefore will be equal to the sum of: (i) the actual cash distribution net of the 10% withholding tax; (ii) the 10% tax actually withheld; and (iii) an amount equal to 5.88% of the sum of (i) and (ii). For example, if SAP distributes a cash dividend equal to U.S.\$100 to a U.S. Holder, the distribution currently will be subject to German withholding tax of U.S.\$25 plus U.S.\$1.375 surtax, and the U.S. Holder will receive U.S.\$73.625. If the U.S. Holder obtains the Treaty refund, he will receive an additional U.S.\$16.375 from the German tax authorities. For U.S. tax purposes, such U.S. Holder will be considered to have received a total distribution of U.S.\$105.88, which will be deemed to have been subject to German withholding tax of U.S.\$15.88 (15% of U.S.\$105.88).

Distributions, if any, in excess of SAP’s current and accumulated earnings and profits will constitute a non-taxable return of capital to a U.S. Holder and will be applied against and reduce the U.S. Holder’s tax basis in his or her Preference Shares. To the extent that such distributions exceed the tax basis of the U.S. Holder in his or her Preference Shares, the excess generally will be treated as capital gain.

In the case of a distribution in euros, the amount of the distribution generally will equal the Dollar value of the euros distributed (determined by reference to the spot currency exchange rate on the date of receipt of the distribution (receipt by the Depository in the case of a distribution on ADSs)), regardless of whether the holder in fact converts the euro into Dollars, and the U.S. Holder will not realize any separate foreign currency gain or loss (except to the extent that such gain or loss arises on the actual disposition of foreign currency received).

Dividends paid by SAP generally will constitute “portfolio income” for purposes of the limitations on the use of passive activity losses (and, therefore, generally may not be offset by passive activity losses) and as “investment income” for purposes of the limitation on the deduction of investment interest expense. Dividends paid by SAP will not be eligible for the dividends received deduction generally allowed to U.S. corporations under Section 243 of the Code.

Under certain circumstances, a U.S. Holder may be deemed to have received a distribution for U.S. federal income tax purposes upon an adjustment, or the failure to make an adjustment, to the conversion price of the 1988 Bonds (see “Item 12. Options to Purchase Securities from Registrant or Subsidiaries — 1988 Bonds”) or the 1994 Bonds.

## *Sale or Exchange*

In general, assuming that SAP at no time is a passive foreign investment company, upon a sale or exchange of Preference Shares to a person other than SAP, a U.S. Holder will recognize gain or loss in an amount equal to the difference between the amount realized on the sale or exchange and the U.S. Holder’s adjusted tax basis in the Preference Shares. Such gain or loss will be capital gain or loss. Upon a sale of Preference Shares to SAP, a U.S. Holder may recognize capital gain or loss or, alternatively, may be considered to have received a distribution with respect to the Preference Shares, in each case depending upon the application to such sale of the rules of Section 302 of the Code.

Deposit and withdrawal of Preference Shares in exchange for ADSs by a U.S. Holder will not result in its realization of gain or loss for U.S. federal income tax purposes.

### *Foreign Tax Credit*

In general, in computing its U.S. federal income tax liability, a U.S. Holder may elect for each taxable year to claim a deduction or, subject to the limitations on foreign tax credits generally, a credit for foreign income taxes paid or accrued by it. For U.S. foreign tax credit purposes, subject to the applicable limitations under the foreign tax credit rules, the 15% German tax that is treated as having been withheld from dividends paid to a U.S. Holder will be eligible for credit against the U.S. Holder's federal income tax liability. Thus, in the numerical example set out above, a U.S. Holder who receives a cash distribution of U.S.\$90 from SAP (U.S.\$100 of the initial distribution net of U.S.\$25 of German withholding tax and U.S.\$1.375 of surtax plus the Treaty refund of U.S.\$16.375) will be treated as having been subject to German withholding tax in the amount of U.S.\$15.88 (15% of U.S.\$105.88) and will be able to claim the U.S. foreign tax credit, subject to applicable foreign tax credit limitations, in the amount of U.S.\$15.88.

For U.S. foreign tax credit purposes, dividends paid by SAP generally will be treated as foreign-source income and as "passive income" (or in the case of certain holders, as "financial services income"). Gain realized by a U.S. Holder on the sale or exchange of Preference Shares generally will be treated as U.S.-source income.

The IRS is authorized to issue regulations to govern the source of losses recognized on the sale of personal property (such as the Preference Shares). Relevant legislative history suggests that the regulations generally should treat a loss recognized by a U.S. Holder on the sale or exchange of Preference Shares as U.S.-source loss. In connection with proposed regulations, the IRS has stated that the sourcing of a loss from the sale or exchange of portfolio stock (generally stock held by a less-than-10% shareholder) will be reviewed in the context of a broader regulations project. The proposed regulations suggest that, in the interim, a loss on the sale or exchange of Preference Shares generally would be treated as foreign-source loss. At present, it is unclear whether these proposed regulations will be adopted and, if adopted, whether they will be adopted in their present form. U.S. Holders are encouraged to consult their own tax advisors regarding the proper treatment of these losses for foreign tax credit purposes.

The availability of foreign tax credits depends on the particular circumstances of each U.S. Holder. U.S. Holders are advised to consult their own tax advisors.

### *Foreign Personal Holding Company Considerations*

SAP does not believe that it or any of its subsidiaries currently is a "foreign personal holding company" (an "FPHC") for U.S. federal income tax purposes. SAP is not aware of any changes that would affect this conclusion in the foreseeable future. A foreign corporation is an FPHC for a taxable year if (i) at any time, more than 50% of its stock (by vote or by value) is owned (directly, indirectly or by attribution) by or for not more than five individuals who are citizens or residents of the United States (the "ownership requirement") and (ii) at least 60% (50% in certain cases) of its gross income is FPHC income, which generally includes dividends, interest, royalties (except certain active business computer software royalties) and other types of investment income (the "income requirement"). If SAP or one of its subsidiaries were treated as an FPHC, then each U.S. Holder owning ADSs or Preference Shares on the last day in the taxable year on which the ownership requirement with respect to SAP or its subsidiary is met would be required to include currently in taxable income as a dividend a *pro rata* share of SAP's or the subsidiary's undistributed FPHC income, which is, generally, SAP's or the subsidiary's taxable income with certain adjustments and after reduction for certain dividend payments.

SAP does not believe that the ownership requirement is met at the date hereof with respect to SAP or any of its subsidiaries. However, there can be no assurance that the ownership requirement will not be met at some later time. Whether the income requirement would be met with respect to SAP or any of its subsidiaries at any such later date would depend on the nature and sources of SAP's and each subsidiary's income at that time.

### *Passive Foreign Investment Company Considerations*

*Classification as a PFIC.* Special and adverse U.S. tax rules apply to a U.S. Holder that holds an interest in a “passive foreign investment company” (a “PFIC”). In general, a PFIC is any non-U.S. corporation, if (i) 75% or more of the gross income of such corporation for the taxable year is passive income (the “income test”) or (ii) the average percentage of assets (by value) held by such corporation during the taxable year that produce passive income (e.g., dividends, interest, royalties, rents and annuities) or that are held for the production of passive income is at least 50% (the “asset test”). A corporation that owns, directly or indirectly, at least 25% by value of the stock of a second corporation must take into account its proportionate share of the second corporation’s income and assets in applying the income test and the asset test.

Based on current projections concerning the composition of SAP’s income and assets, SAP does not believe that it will be treated as a PFIC for its current or future taxable years. However, because this conclusion is based on the Company’s current projections and expectations as to its future business activity, SAP can provide no assurance that it will not be treated as a PFIC in respect of its current or any future taxable years.

*Consequences of PFIC Status.* If SAP is treated as a PFIC for any taxable year during which a U.S. Holder holds Preference Shares, then, subject to the discussion of the qualified electing fund (“QEF”) and “mark-to-market” rules below, such U.S. Holder generally will be subject to a special and adverse tax regime with respect to any gain realized on the disposition of the Preference Shares and with respect to certain “excess distributions” made to it by SAP. The adverse tax consequences include taxation of such gain or excess distribution at ordinary-income rates and payment of an interest charge on tax which is deemed to have been deferred with respect to such gain or excess distributions. Under the PFIC rules, excess distributions include dividends or other distributions received with respect to the Preference Shares, if the aggregate amount of such distributions in any taxable year exceeds 125% of the average amount of distributions from SAP made during a specified base period.

In some circumstances, a U.S. Holder may avoid certain of the unfavorable consequences of the PFIC rules by making a QEF election in respect of SAP. A QEF election effectively would require an electing U.S. Holder to include in income currently its *pro rata* share of the ordinary earnings and net capital gain of SAP. However, a U.S. Holder cannot elect QEF status with respect to SAP unless SAP complies with certain reporting requirements and there can be no assurance that SAP will provide such information.

Effective for taxable years beginning after December 31, 1997, a U.S. Holder that holds “marketable” stock in a PFIC may, in lieu of making a QEF election, also avoid certain unfavorable consequences of the PFIC rules by electing to mark the PFIC stock to market at the close of each taxable year. SAP expects that the Preference Shares will be “marketable” for this purpose. A U.S. Holder that makes the mark-to-market election will be required to include in income each year as ordinary income an amount equal to the excess, if any, of the fair market value of the stock at the close of the year over the U.S. Holder’s adjusted tax basis in the stock. If, at the close of the year, the U.S. Holder’s adjusted tax basis exceeds the fair market value of the stock, then the U.S. Holder may deduct any such excess from ordinary income, but only to the extent of net mark-to-market gains previously included in income. Any gain from the actual sale of the PFIC stock will be treated as ordinary income, and any loss will be treated as ordinary loss to the extent of net mark-to-market gains previously included in income.

### **Taxation of Holders of ADSs or Preference Shares in Other Countries**

Holders or potential holders of ADSs or Preference Shares who are resident or otherwise taxable in countries other than Germany and the United States are urged to consult their own tax advisors concerning the overall tax consequences of the acquisition, ownership and disposition of ADSs or Preference Shares.

**Item 8. Selected Financial Data.**

The following selected consolidated financial data of the Company is derived from, and is qualified by reference to, the Company's consolidated financial statements included herein and notes thereto audited, in respect of 1998, 1997, 1996 and 1995, by ARTHUR ANDERSEN Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft mbH and, in respect of 1994, by AW Treuhand Andersen & Wipfler GmbH Wirtschaftsprüfungsgesellschaft (a subsidiary of ARTHUR ANDERSEN Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft mbH), each independent auditors. The audited consolidated income statements, consolidated statements of cash flows and consolidated statements of changes in shareholders' equity for the years ended December 31, 1998, 1997, and 1996, and consolidated balance sheets at December 31, 1998 and 1997 are included in "Item 18. Financial Statements." The Company's consolidated financial statements included herein have been prepared in accordance with German GAAP.

The selected consolidated financial data prepared in accordance with U.S. GAAP at and for the years ended December 31, 1998, 1997 and 1996 have been derived from the Company's consolidated financial statements included in "Item 18. Financial Statements." German GAAP differs in certain significant respects from U.S. GAAP. A reconciliation of the differences between German GAAP and U.S. GAAP which materially affect the determination of net income for each of the three years ended December 31, 1998, 1997 and 1996 and shareholders' equity at December 31, 1998 and 1997 is set forth in note 6 to the Company's consolidated financial statements included in "Item 18. Financial Statements."

The selected financial data set forth below should be read in conjunction with, and are qualified by reference to, the related consolidated financial statements of the Company included herein and notes thereto and "Item 9. Management's Discussion and Analysis of Financial Condition and Results of Operations." Certain reclassifications have been made to prior year amounts to conform with the current year's presentation.

	Year Ended December 31,					
	(in thousands of DM or U.S.\$, except per share data or as otherwise indicated)					
	1998 U.S.\$ <sup>(1)</sup>	1998 DM	1997 DM	1996 DM	1995 DM	1994 DM
<b>Income Statement Data:</b>						
<i>Amounts in accordance with German GAAP</i>						
Product revenues . . . . .	3,153,534	5,256,941	4,097,117	2,630,512	1,933,811	1,304,470
Consulting and training revenues . . . . .	1,851,611	3,086,636	1,831,056	1,041,404	724,134	493,885
Other . . . . .	73,016	121,717	89,293	50,234	38,436	32,788
Total sales revenues . . . . .	<u>5,078,161</u>	<u>8,465,294</u>	<u>6,017,466</u>	<u>3,722,150</u>	<u>2,696,381</u>	<u>1,831,143</u>
Other operating income <sup>(2)</sup> . . . . .	113,720	189,571	82,438	74,673	54,789	31,918
Operating expenses:						
Cost of services and materials . . . . .	707,944	1,180,143	605,719	394,384	300,647	187,822
Personnel expenses . . . . .	1,825,773	3,043,564	2,074,920	1,338,473	956,744	675,212
Depreciation and amortization . . . . .	162,776	271,348	195,321	164,591	144,456	88,662
Other operating expenses . . . . .	<u>1,359,724</u>	<u>2,266,660</u>	<u>1,611,728</u>	<u>955,746</u>	<u>697,455</u>	<u>462,126</u>
Operating expenses . . . . .	<u>4,056,218</u>	<u>6,761,715</u>	<u>4,487,688</u>	<u>2,853,194</u>	<u>2,099,302</u>	<u>1,413,822</u>
Operating results . . . . .	1,135,663	1,893,150	1,612,216	943,629	651,868	449,239
Financial income, net <sup>(3)</sup> . . . . .	<u>16,240</u>	<u>27,072</u>	<u>54,720</u>	<u>23,584</u>	<u>22,198</u>	<u>22,016</u>
Results from ordinary operations . . . . .	1,151,903	1,920,222	1,666,936	967,213	674,066	471,255
Taxes on income . . . . .	493,525	822,706	708,354	382,414	258,665	176,160
Other taxes . . . . .	<u>27,095</u>	<u>45,168</u>	<u>33,228</u>	<u>17,263</u>	<u>10,573</u>	<u>13,921</u>
Total taxes . . . . .	<u>520,620</u>	<u>867,874</u>	<u>741,582</u>	<u>399,677</u>	<u>269,238</u>	<u>190,081</u>
Net income . . . . .	631,283	1,052,348	925,354	567,536	404,828	281,174
Earnings per share <sup>(4)</sup> . . . . .	6.04	10.04	8.85	5.47	3.98	2.77

	Year Ended December 31,					
	(in thousands of DM or U.S.\$, except per share data or as otherwise indicated)					
	1998	1998	1997	1996	1995	1994
U.S.\$ <sup>(1)</sup>	DM	DM	DM	DM	DM	
<i>Amounts in accordance with U.S. GAAP</i>						
Total sales revenues . . . . .	5,063,230	8,440,405	5,910,073	3,552,365	N/A	N/A
Net income . . . . .	618,244	1,030,613	873,574	452,151	N/A	N/A
Earnings per share: <sup>(5)</sup>						
Basic						
Ordinary Shares . . . . .	5.90	9.83	8.38	4.40	N/A	N/A
Preference Shares . . . . .	5.95	9.92	8.46	4.47	N/A	N/A
Diluted						
Ordinary Shares . . . . .	5.87	9.78	8.30	4.29	N/A	N/A
Preference Shares . . . . .	5.88	9.81	8.30	4.31	N/A	N/A
<b>Other Data:</b>						
Ratio of earnings to combined fixed charges and preferred dividends in accordance with German GAAP <sup>(6)</sup>	N/A	19.69x	23.97x	23.55x	21.90x	24.55x
Ratio of earnings to combined fixed charges and preferred dividends in accordance with U.S. GAAP <sup>(6)</sup> . . .	N/A	19.26x	23.24x	20.81x	N/A	N/A
<b>Balance Sheet Data:</b>						
<i>Amounts in accordance with German GAAP</i>						
Liquid assets and marketable securities	786,341	1,310,831	1,164,512	902,285	397,755	347,225
Total assets . . . . .	3,777,312	6,296,778	5,070,260	3,367,104	2,218,162	1,749,729
Shareholders' equity . . . . .	2,253,384	3,756,391	3,062,372	2,211,312	1,529,520	1,236,206
Short-term bank loans and overdrafts . .	112,973	188,326	163,134	90,272	59,686	47,189
Long-term financial debt <sup>(7)</sup> . . . . .	31,041	51,745	5,126	8,825	20,546	21,946
<i>Amounts in accordance with U.S. GAAP</i>						
Total assets . . . . .	3,971,211	6,620,008	5,388,641	3,587,676	N/A	N/A
Shareholders' equity . . . . .	2,133,305	3,556,221	2,838,059	2,031,869	N/A	N/A

(1) Amounts in the column are unaudited and translated at DM 1.667 to U.S.\$1.00, the Noon Buying Rate for converting Marks to Dollars on December 31, 1998. See "— Exchange Rates" for recent exchange rates between the euro and the Dollar and the Mark and the Dollar.

(2) Other operating income includes increases in inventory of unfinished services.

(3) Financial income, net includes net interest income, loss/income from investments, income from marketable securities and loans of financial assets and write-down of financial assets.

(4) Earnings per share have been calculated in accordance with the guidelines established by the German Association of Financial Analysts (*Deutsche Vereinigung für Finanzanalyse und Anlageberatung e.V.*). Such amounts are equal to net income divided by (a) the total number of Ordinary Shares outstanding at year end and (b) the total number of Preference Shares outstanding at year end. For the years prior to 1998, the total number of Ordinary Shares and Preference Shares outstanding at year end was determined by assuming that: (i) each then-outstanding DM 50 Ordinary Share equaled ten DM 5 Ordinary Shares; and (ii) each then-outstanding DM 50 Preference Share equaled ten DM 5 Preference Shares. Effective June 16, 1998, SAP's share capital was converted to no nominal value shares.

(5) Earnings per Ordinary Share and per Preference Share have been calculated using the two-class method in accordance with Statement of Financial Accounting Standards No. 128, "Earnings Per Share." See note 6(m) to the Company's consolidated financial statements included herein. For the years prior to 1998, the total number of Ordinary Shares and Preference Shares outstanding at year end was determined by assuming that: (i) each then-outstanding DM 50 Ordinary Share equaled ten DM 5 Ordinary Shares; and (ii) each then-outstanding DM 50 Preference Share equaled ten DM 5 Preference Shares. Effective June 16, 1998, SAP's share capital was converted to no nominal value shares.

(6) In calculating the ratio of earnings to combined fixed charges and preferred dividends, earnings consist of income before income taxes plus fixed charges. Fixed charges consist of interest expense plus one-third of rental expense under operating leases (the portion that has been deemed by the Company to be representative of an interest factor).

(7) Long-term financial debt represents financial liabilities with a remaining life beyond one year. Most of the Company's long-term financial debt represents bank loans and overdrafts due in greater than one year and the outstanding 1994 Bonds issued to Company employees. See "Item 12. Options to Purchase Securities from Registrant or Subsidiaries — 1994 Bonds."

## Exchange Rates

The following table sets forth, for the periods and dates indicated, the average, high, low and period-end Noon Buying Rates for: (i) converting Marks to Dollars, expressed in Marks per Dollar; and (ii) converting euros to Dollars, expressed in euros per Dollar. Effective January 1, 1999, the euro was introduced in the 11 member states of the European Union currently participating in the EMU as a common legal currency among those states for “paperless” transactions, pending the substitution of euro bank notes and coins for the national currencies of the participating member states between January 1, 2002 and July 1, 2002. Effective July 1, 2002, the euro will be the official legal tender for the participating member states, and the national currencies of those member states will be withdrawn from circulation. The fixed exchange rate for euros converted to Marks is DM 1.95583 per EUR 1.00.

<u>Year Ended December 31,</u>	<u>Period-End</u>	<u>Average<sup>(1)</sup></u>	<u>High</u>	<u>Low</u>
1994 .....	DM 1.5495	DM 1.6119	DM 1.7627	DM 1.4920
1995 .....	DM 1.4345	DM 1.4261	DM 1.5612	DM 1.3565
1996 .....	DM 1.5387	DM 1.5049	DM 1.5655	DM 1.4354
1997 .....	DM 1.7991	DM 1.7371	DM 1.8913	DM 1.5389
1998 .....	DM 1.6670	DM 1.7588	DM 1.8542	DM 1.6060
1999 (through May 7, 1999) .....	EUR 1.0781	EUR 1.0904	EUR 1.1812	EUR 1.0564

(1) The average of the applicable Noon Buying Rates on the last day of each month during the relevant period.

On May 7, 1999, the Noon Buying Rate for converting Marks to Dollars was DM 1.8142 per U.S.\$1.00, and the Noon Buying Rate for converting euros to Dollars was EUR 1.0781 per U.S.\$1.00.

Commencing on January 1, 1999, the prices for Preference Shares traded on German stock exchanges have been denominated in euros. Fluctuations in the exchange rate between the euro and the Dollar will affect the Dollar equivalent of the euro price of the Preference Shares traded on the German stock exchanges and, as a result, will affect the price of the ADSs in the United States. In addition, commencing in 1999, SAP will pay cash dividends, if any, in euros, so that such exchange rate fluctuations will also affect the Dollar amounts received by the holders of ADSs on the conversion into Dollars of cash dividends paid in euros on the Preference Shares represented by the ADSs.

A significant portion of the Company’s revenues and expenses is denominated in currencies other than the euro and the Mark. Therefore, the Company’s consolidated revenues, results from ordinary operations, net income and cash flows may be materially affected by movements in the exchange rate between the euro/Mark, on the one hand, and the respective currencies to which the Company is exposed, on the other hand. See “Item 9. Management’s Discussion and Analysis of Financial Condition and Results of Operations — Exchange Rate Exposure.”

## Dividends

Dividends are jointly proposed by SAP’s Supervisory Board and Executive Board based on the SAP’s year-end financial statements, subject to approval by holders of Ordinary Shares, and are officially declared for the prior year at SAP’s annual general shareholders’ meeting. SAP’s annual general shareholders’ meeting usually convenes during the second quarter of each year. Historically, SAP has declared and paid its dividends in Marks. Commencing on January 1, 1999, SAP intends to pay cash dividends, if any, in euros. Since Ordinary Shares and Preference Shares are in bearer form, dividends are either remitted to the custodian bank on behalf of the shareholder within one business day following the annual general shareholders’ meeting or, in the case of shareholders holding physical certificates, available promptly following the annual general shareholders’ meeting upon submission of the dividend coupon to the paying agent therefor. Record holders of the ADSs on the dividend record date will be entitled to receive payment in full of the dividend declared in respect of the year for which it is declared. Cash dividends payable to such holders will be paid to the Depositary in euros and, subject to certain exceptions, will be converted by the Depositary into Dollars. The amount of dividends received by holders of ADSs may be affected by fluctuations in exchange rates. See

“— Exchange Rates.” Dividends paid to holders of the ADSs or Preference Shares may be subject to German withholding tax. See “Item 7. Taxation.”

The following table sets forth the annual dividends paid per Ordinary Share and Preference Share in euros or Marks, as applicable, in respect of each of the years indicated.

Year Ended December 31,	Dividend Paid per Ordinary Share <sup>(1)</sup>			Dividend Paid per Preference Share <sup>(1)</sup>		
	EUR	DM	U.S.\$	EUR	DM	U.S.\$
1994 .....		0.85	0.62 <sup>(2)</sup>		0.90	0.65 <sup>(2)</sup>
1995 .....		1.30	0.85 <sup>(2)</sup>		1.35	0.88 <sup>(2)</sup>
1996 .....		2.30 <sup>(3)</sup>	1.35 <sup>(2)</sup>		2.35 <sup>(3)</sup>	1.38 <sup>(2)</sup>
1997 .....		2.80	1.58 <sup>(2)</sup>		2.85	1.61 <sup>(2)</sup>
1998 .....	1.57		1.69 <sup>(4)</sup>	1.60		1.72 <sup>(4)</sup>

(1) Adjusted to reflect: (i) the capital increase from reserves which took effect on August 9, 1994, pursuant to which holders of Ordinary Shares and Preference Shares received four additional shares for each such share owned by such holders; and (ii) a 1:10 stock split which took effect on July 17, 1995 with respect to 706,000 DM 50 Ordinary Shares and 1,950,000 DM 50 Preference Shares to reflect the reduction in the nominal value of such DM 50 Ordinary Shares and DM 50 Preference Shares from DM 50 to DM 5. Effective June 16, 1998, SAP’s share capital was converted to no nominal value shares.

(2) Translated from Marks into Dollars at the Noon Buying Rate for converting Marks to Dollars on the dividend payment date.

(3) Includes anniversary bonus in the amount of DM 0.5.

(4) Translated from euros into Dollars at the Noon Buying Rate for converting euros into Dollars on the dividend payment date.

The amount of dividends paid on the Ordinary Shares and the Preference Shares depends on the amount of profits to be distributed by SAP, which depends in part upon the performance of the Company. A holder of Preference Shares is entitled to a cumulative annual preferred dividend which exceeds the annual dividend paid to holders of Ordinary Shares by an amount equal to EUR 0.03 per Preference Share but in no event less than a minimum dividend equal to EUR 0.03 per Preference Share. Although SAP expects to continue to pay dividends on the Preference Shares, the timing and amount of future dividend payments will depend upon the Company’s future earnings, its capital needs and other relevant factors.

#### **Item 9. Management’s Discussion and Analysis of Financial Condition and Results of Operations.**

Any statements contained in this Item 9 that are not historical facts are forward-looking statements as defined in the U.S. Private Securities Litigation Reform Act of 1995. Words such as “believe,” “estimate,” “intend,” “may,” “will” and “expect” and similar expressions as they relate to the Company are intended to identify such forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements. All forward-looking statements are subject to various risks and uncertainties that could cause results to differ materially from expectations. The factors that could affect the Company’s future financial results are discussed more fully under “— Factors That May Affect Future Results and Market Price of Stock,” as well as elsewhere in this Form 20-F and in the Company’s other filings with the U.S. Securities and Exchange Commission. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates.

#### **Accounting Principles**

The consolidated financial statements of the Company included herein have been prepared in accordance with German GAAP, which varies in certain significant respects from U.S. GAAP. The following discussion is based upon financial information prepared in conformity with German GAAP. For a discussion of significant German accounting principles used in preparation of the consolidated financial statements, see the notes to the Company’s consolidated financial statements included herein. Application of U.S. GAAP would have materially affected net income for each of the three years ended December 31, 1998, 1997 and 1996 and shareholders’ equity at December 31, 1998 and 1997 to the extent shown in note 6 to the Company’s consolidated financial statements included herein.

Effective for the fiscal year 1999 and thereafter, the consolidated financial statements of the Company will be prepared exclusively in accordance with U.S. GAAP. The Company issued its results for the first quarter of 1999 in a press release dated April 21, 1999, and, in a separate press release of the same date, the Company restated its quarterly and annual results for 1998 in accordance with U.S. GAAP for comparative purposes. The Company's 1997 consolidated financial statements will be restated in accordance with U.S. GAAP for comparative purposes with the issuance of the Company's 1999 consolidated financial statements.

## **Overview**

The Company is a leading international developer and supplier of integrated business application software designed to provide cost-effective comprehensive solutions for businesses. The Company's primary product, the R/3 System, is designed to provide customers with a palette of standard business solutions arranged in applications which provide integrated enterprise-wide processing of business work flows. In 1998, the Company announced the introduction of its New Dimension products, which initially include independent business applications for supply chain management, customer relationship management, business intelligence and electronic commerce. The Company's products also include Industry Specific Products and other independent business applications, and the Company provides the necessary technological infrastructure to support complementary third-party software solutions. The Company has many strategic partners that offer complementary third-party software, services and hardware. The Company's services include consulting, support and training. In 1999, the Company announced that all SAP Software Products will be accessible for use over the Internet, enabling new Internet-based business scenarios, inter-enterprise integration and more efficient electronic commerce.

On December 31, 1998, the Company had more than 19,000 System installations at over 10,700 customers ranging in size from multinational enterprises to medium- and smaller-sized businesses. For the year ended December 31, 1998, the Company's sales revenues and results from ordinary operations (pretax profits) were approximately DM 8.47 billion and DM 1.92 billion, respectively, as compared to DM 6.02 billion and DM 1.67 billion, respectively, for the year ended December 31, 1997. Net income was DM 1,052.3 million and DM 925.4 million for the years ended December 31, 1998 and 1997, respectively. The Company consists of SAP and its network of 55 operating subsidiaries and has a presence or a representative in 107 countries.

The Company's principal sources of revenue are product revenues and consulting and training revenues. Product revenues consist primarily of license fees and maintenance services fees. License fees are derived from the licensing of SAP Software Products to customers. The Company provides optional maintenance services for a fixed fee calculated on the basis of the initial license fee paid by the customer. The maintenance services entitle the customer to upgrades and enhancements through new product releases, versions and correction levels, telephone support on the use of the products and assistance in resolving problems, remote support, access to online bulletin board support services and SAP EarlyWatch, a world-wide remote monitoring and diagnosis service for the R/3 System. The Company's consulting and training revenues are derived primarily from the services rendered with respect to implementation, consulting and training of customer project teams and end users in connection with the installation of SAP Software Products in customers' enterprises, as well as training third-party consultants with respect to SAP Software Products.

The Company generally licenses its products to customers on a "right-to-use" basis pursuant to a perpetual license. These license agreements are generally in standard form, although each license is individually negotiated and may contain variations. The licenses are generally non-transferable or, if transferable, the transfer is subject to the Company's reasonable approval. The standard end-user license agreement for SAP Software Products (other than the R/2 System) provides for an initial license fee based on the number and types of identified users or other applicable criteria. Additional licensing fees are charged when the designated number of users or another relevant metric is increased. The Company, together with certain of its business partners, has commenced offering certain SAP Software Products to medium- and smaller-sized companies as a component of outsourcing offerings, in which license and maintenance fees may be paid to the Company on a per user, per month or similar subscription basis (rather than an upfront license fee payment). The standard end-user license agreement for the R/2 System provides for an initial fee based

on the number and nature of functions and applications licensed by the customer and on the type of mainframe computer class being used.

The Company recognizes software license fee revenues when the customer has legally executed an irrevocable contract with the Company and the software has been delivered. Under certain license agreements, customers agree to license additional groups of users at prescribed future dates on a non-cancelable basis. Future users are granted systems' authorization on these commitment dates. License agreements with customers seeking to implement SAP Software Products with a large number of users sometimes provide for increases in the number of users over a period of time. Under these circumstances, the Company recognizes revenues for such additional users on the dates that authorization is granted.

Maintenance fees are generally payable in advance at the beginning of each maintenance period, and maintenance revenues are recognized *pro rata* over the duration of the maintenance period. Approximately 98% of the Company's 1998 customers elected to receive maintenance services from the Company.

Consulting and training revenues generally are recognized at the time the service is rendered and are typically calculated at the Company's list price for such services.

### **Exchange Rate Exposure**

Prior to January 1, 1999, the Company's financial accounting and reporting currency was the Mark. Effective as of January 1, 1999, the Company has adopted the euro as its financial accounting and reporting currency. Nevertheless, a significant portion of the Company's business is conducted in currencies other than the euro and the Mark. International sales are primarily made through the Company's subsidiaries in the respective regions and are generally denominated in the local currency, although in certain countries where exchange rate exposure is considered high, some sales may be denominated in euros, Marks or Dollars. Expenses incurred by the subsidiaries are generally denominated in the local currency. Accordingly, the functional currency of the Company's subsidiaries is the local currency. Therefore, the Company's consolidated revenues, results from ordinary operations, net income and cash flows may be materially affected by movements in the exchange rate between the euro/Mark, on the one hand, and the respective currencies to which the Company is exposed, on the other hand. In general, appreciation of the euro and the Mark relative to another currency has a negative effect on reported consolidated revenues, results from ordinary operations and net income, while depreciation of the euro and the Mark has a positive effect. As a consequence, period-to-period changes in the average exchange rate in a particular currency can significantly affect revenues and operating results. The principal currencies in which the Company's subsidiaries conduct business that are subject to the risks described in this paragraph are the Dollar, the Japanese Yen, the Swiss Frank, the British Pound Sterling, the Brazilian Real, the Canadian Dollar and the Australian Dollar.

Of the Company's consolidated revenues in 1998 and 1997, approximately 82% and 81%, respectively, were attributable to non-German operations and translated into Marks. Fluctuations in the value of the Mark had (negative)/positive effects on the Company's consolidated revenues, results from ordinary operations and net income of DM (338.9) million, DM (57.6) million and DM (26.8) million, respectively, for 1998 and DM 423.1 million, DM 117.2 million and DM 85.5 million, respectively, for 1997. See "Item 9A. Quantitative and Qualitative Disclosure About Market Risk."

### **Interest Rate Exposure**

The Company invests its cash primarily in bank time deposits and fixed and variable rate marketable debt securities. The majority of such investments are denominated in Marks. Cash held by foreign subsidiaries is generally held in short-term time deposits denominated in the local currency.

Net interest income increased to DM 60.8 million in 1998 compared to DM 52.6 million and DM 27.8 million in 1997 and 1996, respectively. The increases in net interest income for 1998 and 1997 are primarily the result of a larger average portfolio of liquid assets and marketable securities. See note 14 to the Company's consolidated financial statements included herein.

While the Company is exposed generally to fluctuations in the interest rates of many of the world's leading industrialized countries, the Company's interest income and expense is most sensitive to fluctuations in the level of German and EMU interest rates. The fair market values of both fixed and variable rate investments are exposed to such interest rate risk. To the extent that interest rates rise, fixed interest securities may be adversely impacted whereas a decline in interest rates may decrease the anticipated interest income for variable rate investments. See "Item 9A. Quantitative and Qualitative Disclosure About Market Risk."

## Inflation

During the years 1998, 1997, and 1996, the effects of inflation on the Company's operations have not been material.

## Revenue by Geographic Region

The Company operates its business in three principal geographic regions, namely EMEA, North and Latin America (the "Americas") and Asia-Pacific. The Company allocates revenue amounts to the region in which the customer is located. See note 41 to the Company's consolidated financial statements included herein for additional information with respect to operations by geographic region. The following table sets forth, for the periods indicated, the sales revenues attributable to each of the Company's three principal geographic regions.

	<u>1998</u>	<u>1997</u>	<u>1996</u>
	(in millions of DMs)		
Germany . . . . .	1,565.1	1,149.1	914.3
Rest of EMEA . . . . .	<u>2,233.6</u>	<u>1,488.4</u>	<u>957.7</u>
Total EMEA . . . . .	<u>3,798.7</u>	<u>2,637.5</u>	<u>1,872.0</u>
United States . . . . .	3,068.5	2,105.6	1,159.2
Rest of Americas . . . . .	<u>858.4</u>	<u>489.2</u>	<u>226.5</u>
Total Americas . . . . .	<u>3,926.9</u>	<u>2,594.8</u>	<u>1,385.7</u>
Asia-Pacific . . . . .	<u>739.7</u>	<u>785.2</u>	<u>464.5</u>
Total . . . . .	<u>8,465.3</u>	<u>6,017.5</u>	<u>3,722.2</u>

*EMEA.* Approximately 44.9% of the Company's 1998 revenues was derived from the EMEA region compared to 43.8% and 50.3% in 1997 and 1996, respectively. Approximately 41.2% of the revenues from the EMEA region in 1998 was derived from Germany compared to 43.6% and 48.8% in 1997 and 1996, respectively. The remainder of revenues from the EMEA region in 1998 was derived primarily from the United Kingdom, France, Switzerland, the Netherlands and Italy. During 1998, the financial crisis in the countries of the former Soviet Union led companies operating in the area to be confronted with ever-worsening solvency problems. As a result, the Company made allowances in 1998 for its operations in Russia resulting in a reduction in its 1998 results from ordinary operations by approximately DM 40 million and has changed from the accrual to the cash basis of accounting in Russia. There can be no assurance that the current financial crisis in Russia or the other countries of the former Soviet Union or the economic or political conditions in other countries in eastern Europe will not worsen or that the situation will not further negatively affect the Company's business, financial condition, results of operations or cash flows.

*Americas.* Approximately 46.4% of the Company's 1998 revenues was derived from the Americas region compared to 43.1% and 37.2% in 1997 and 1996, respectively. The shift of the revenue percentages to the Americas from other regions from year to year is primarily due to the Company's continued expansion in the United States. Revenues from the United States represented approximately 78.1%, 81.1% and 83.7% of the Company's total Americas market, for 1998, 1997 and 1996, respectively. The remainder of the Americas revenues was derived primarily from Brazil, Canada, Mexico, Argentina and Venezuela.

*Asia-Pacific.* Approximately 8.7% of the Company's 1998 revenues was derived from the Asia-Pacific region, compared to 13.0% and 12.5% in 1997 and 1996, respectively. In 1998, the Company's revenues from the Asia-Pacific region derived primarily from Australia, Japan, Singapore, Malaysia and South Korea. The economic and financial crisis in Japan significantly impacted the Company's operating results for 1998. At the beginning of the year, it appeared that the Company's operations in Japan would not be significantly influenced by this crisis. Late in the second quarter of 1998, Japanese businesses began to scale down planned implementations of SAP Software Products or to schedule these projects over a longer period than first anticipated. As a result, product purchasing cycles in Japan become more unpredictable. Although at that time the Company expected that the situation in Japan would not improve quickly, and consequently adjusted internal expectations more than once, the worsening of the crisis and its effects on the Company, in particular at the end of 1998, was not fully anticipated by the Company. These developments led to product sales revenues for SAP Japan Co., Ltd. ("SAP Japan") that were approximately DM 200 million lower than had been planned. In early 1999, the Company's Japanese sales operation was reorganized to improve the accuracy and quality of sales forecasting, as well the Company's orientation to the altered purchasing behavior of major companies in Japan. There can be no assurance that the current economic or political conditions in Japan or in the other countries in the Asia-Pacific region will not worsen or that the situation will not further negatively affect the Company's business, financial condition, results of operations or cash flows.

### Industry Sectors

In 1998, the Company established the following six Industry Sectors in order to focus the Company's product development efforts on key industries and to provide best-business practices and integrated business solutions specific to those industries: (i) process industries; (ii) discrete manufacturing; (iii) fast-moving consumer goods; (iv) utilities and communication; (v) financial service and service providers; and (vi) public sector. The following table sets forth the total sales revenues attributable to each such Industry Sectors for 1998.

	<u>1998</u>
	<u>DM (000)</u>
Process industries . . . . .	1,910,980
Discrete manufacturing . . . . .	2,275,050
Fast-moving consumer goods . . . . .	1,274,163
Utilities and communication . . . . .	886,901
Financial service and service providers . . . . .	1,621,530
Public sector . . . . .	<u>496,670</u>
Total sales revenues . . . . .	<u>8,465,294</u>

### Results of Operations

*Year Ended December 31, 1998 Compared with Year Ended December 31, 1997*

#### Sales Revenues

Total sales revenues increased from DM 6,017.5 million for 1997 to DM 8,465.3 million for 1998, representing an increase of DM 2,447.8 million or 40.7%. The revenue items contributing to the increase in total sales revenues in 1998 were increases in product revenues of 28.3%, consulting revenues of 75.3% and training revenues of 54.1% compared to 1997.

*Product Revenues.* Product revenues increased from DM 4,097.1 million for 1997 to DM 5,256.9 million for 1998, representing an increase of DM 1,159.8 million or 28.3%. The primary reason for this growth in product revenue was an increase in the number of software licenses for new and existing customers, the expansion of the Company's operations, particularly in the Americas and EMEA regions, growth in vertical markets through the Industry Specific Products program and penetration in the mid-market. The growth in product revenue was also attributable to strong demand during the first half of 1998 for software that complies

with “Year 2000” requirements. The growth in product revenue was further attributable to demand for software that complies with the EMU’s conversion to the euro, including business processing during the dual-currency phase. In addition, increased demand within the application software industry was driven by continued globalization of businesses and the need for an increased level of integration between businesses and their partners in the areas of collaboration, supply chain and electronic commerce. Under the assumption that 50% of the Company’s maintenance services revenues are related to the distribution of new software releases and the other 50% to service-related maintenance, software sales (comprising sales of new software licenses and of new software releases) increased by 25% from DM 3,750.4 million in 1997 to DM 4,676.9 million in 1998. Product revenues from service-related maintenance increased by 67.5% from DM 342.2 million in 1997 to DM 573.2 million in 1998.

Aggregate product revenues as a percentage of total sales revenues was 68.1% in 1997 and 62.1% in 1998. This decrease in product revenues as a percentage of sales was due largely to more dramatic growth in 1998 in the Company’s consulting and training revenues (by DM 1,255.7 million or 68.6%) compared to 1997, resulting primarily from the increased use of TeamSAP, as well as from the weakening during the second half of 1998 of demand for Year 2000 compliant software. The Company believes that, beginning in the second half of 1998, companies began to dedicate available resources to the testing and correction of existing systems for Year 2000 readiness, resulting in reduced resources available to customers and potential customers for the purchase of long lead-time software products such as those offered by the Company. See “— Factors That May Affect Future Results and Market Price of Stock — Effects of Year 2000 Issues on Customer Purchasing Behavior.”

Product revenues attributable to the R/2 System declined by 20.7% from DM 222.6 million in 1997 to DM 176.4 million in 1998. This decline was due primarily to the general shift in computer hardware from mainframe-oriented data processing to the client/server model of computing. The Company believes that R/2 System product revenues will continue to decline.

*Consulting and Training Revenues.* Consulting revenues increased from DM 1,251.1 million in 1997 to DM 2,193.3 million in 1998, representing an increase of 75.3%. Consulting revenues as a percentage of total sales revenues increased from 20.8% in 1997 to 25.9% in 1998. The primary reason for this growth in consulting revenues was the increased use of TeamSAP.

Training revenues increased by 54.1% from DM 579.9 million in 1997 to DM 893.4 million in 1998. This increase was primarily due to the increase in the number of installations, significant capital investments that were made in the infrastructure of the training operations during 1997 and 1998, new curricula of role-based end-user training and computer-based training modules, and increased customer satisfaction.

#### Operating Expenses

Operating expenses increased from DM 4,487.7 million for 1997 to DM 6,761.7 million for 1998, representing an increase of DM 2,274.0 million or 50.7%. This growth in expenses was the result of the increase in third-party services costs associated primarily with the TeamSAP initiative, as well as the Company’s investment in personnel, facilities and equipment in continuing to build a strong global infrastructure that is essential to the continued development and distribution of industry-leading business software solutions. The Company believes that this investment is necessary to the Company’s continued growth and prospects in 1999 and beyond.

*Cost of Services and Materials.* Cost of services and materials consists primarily of fees paid to independent consultants assisting the Company in supporting its customers and in developing enhancements to SAP Software Products. The cost of services and materials also consists of telephone hotline support of customers and the cost of multilingual product documentation. The cost of services and materials increased by 94.8% from DM 605.7 million for 1997 to DM 1,180.1 million for 1998. This increase was due primarily to the increase in the cost of purchased consulting services associated with the TeamSAP initiative. The cost of purchased consulting services increased by 134.7% from DM 310.9 million in 1997 to DM 728.5 million in 1998. These costs were charged to customers as consulting service fees, which are reflected in consulting revenues.

*Personnel Expenses.* Personnel expenses represent the costs of salaries and benefits payable to employees. Personnel expenses increased by 46.7% from DM 2,074.9 million for 1997 to DM 3,043.6 million for 1998. The overall number of employees increased 50.2% from 12,856 to 19,308 at December 31, 1997 and 1998, respectively. As a percentage of sales revenues, personnel expenses grew from 34.5% to 36.0%.

In 1998, personnel expenses included DM 47.5 million in reserves for stock appreciation rights (“SARs”) granted to eligible employees in May 1998 (the “1998 SARs”) under the Company’s Stock Appreciation Rights Plan (the “STAR Plan”). Disregarding the expense for the 1998 SARs, the increase in personnel expenses from 1997 to 1998 would have been 44.3%. The 1998 SARs entitled the eligible employees to receive a portion of the appreciation in the price of Preference Shares during a measurement period of approximately one-year (May 1998 to April 1999). See “Item 12. Options to Purchase Securities from Registrant and Subsidiaries — STAR Plan.”

The number of research and development employees increased 67.5% to 4,818 in 1998 from 2,876 in 1997. The percentage of employees working in the research and development department increased from 22.4% in 1997 to 25.0% in 1998. The number of employees in sales and marketing grew by 44.6% from 2,423 in 1997 to 3,503 in 1998. There were 3,013 new positions in service and support, an increase of 46.0% from 6,557 employees at December 31, 1997 to 9,570 employees at December 31, 1998.

In addition, the Company’s continued commitment to international markets required growth in employee numbers outside of Germany. In the Americas region, the Company increased staff numbers by 58.1% from 3,785 at December 31, 1997 to 5,984 at December 31, 1998. In the EMEA region, the number of employees grew 46.4% from 7,485 at December 31, 1997 to 10,960 at December 31, 1998. In Germany, the number of employees increased to 7,679 at December 31, 1998, 39.2% more than the 5,516 at December 31, 1997. In the Asia-Pacific region, the number of employees increased 49.0% from 1,586 to 2,364 at December 31, 1997 and 1998, respectively.

Sales revenues per employee declined to DM 489 thousand from DM 521 thousand in the previous year based on an average number of employees for the year of 17,323. The 6.5% decrease was caused by the significant rise in the number of employees, which the Company believes is an investment in its future, and by the negative effect of foreign exchange rate fluctuations on revenues.

*Depreciation and Amortization.* Depreciation charges relate primarily to the depreciation of buildings, computer hardware and equipment and other property, plant and equipment owned by the Company. Amortization arises primarily from the amortization of the cost of software purchased by the Company and goodwill arising from business acquisitions. Depreciation and amortization increased from DM 195.3 million for 1997 to DM 271.3 million for 1998, representing an increase of 38.9%.

*Other Operating Expenses.* Other operating expenses include travel, marketing, license fees and commissions paid to third parties for databases and the other complementary third-party products sublicensed by the Company to customers, equipment rental, facilities leasing, telecommunications, administration, exchange rate differences and entertainment expenses. Other operating expenses increased from DM 1,611.7 million for 1997 to DM 2,266.7 million for 1998, representing an increase of 40.6%. This increase was primarily due to increased travel, marketing, license and rent (including leasing of computer hardware and equipment) expenses to support the continued growth of operations.

#### Financial Income, Net

Financial income, net is composed primarily of net interest income, loss/income from investments, income from marketable securities and loans of financial assets and write-down of financial assets. Financial income, net decreased from DM 54.7 million for 1997 to DM 27.1 million for 1998, a decrease of 50.5%. This decrease resulted mainly from a DM 36.5 million loss in 1998 relating to the Company’s investment in Pandesic LLC, its Internet joint venture with Intel Corp., offset in-part by the continuing improvement in net interest income (increase of DM 8.3 million in 1998) due to a larger average portfolio of liquid assets. The Company expects to continue to incur losses in 1999 relating to its investment in Pandesic LLC.

## Results from Ordinary Operations

Results from ordinary operations (pretax profits) increased from DM 1,666.9 million in 1997 to DM 1,920.2 million in 1998, or 15.2%. Before creation of reserves for the 1998 SARs, results from ordinary operations would have increased to DM 1,967.7 million, or 18.0%, compared to 1997. Results from ordinary operations as a percentage of total sales revenue (pretax margin) declined to 22.7% in 1998 from 27.7% in 1997.

## Taxes on Income

The Company's effective income tax rate, before other taxes, on results from ordinary operations increased from 42.5% for 1997 to 42.8% for 1998. This increase was due primarily to operating losses incurred at SAP Japan for the year ended December 31, 1998, for which no tax benefit was recognized under German GAAP.

## Net Income

Net income increased from DM 925.4 million in 1997 to DM 1,052.3 million in 1998, or 13.7%. Net income as a percentage of total sales revenues decreased from 15.4% for 1997 to 12.4% for 1998. This decrease was due to higher relative operating expenses associated with the Company's growth strategy and decreased financial income, net. Net income was also adversely impacted by a loss of approximately DM 100 million incurred for the year ended December 31, 1998 by SAP Japan and allowances of approximately DM 40.0 million for operations in Russia. See "— Revenue by Geographic Location."

## Research and Development Expenses

The Company expenses research and development costs as incurred. The Company does not present research and development expenses separately in its financial statements. The Company considers its research and development expenses to include those personnel expenses related to research and development employees, expenditures on computer hardware used in research and development and expenditures on independent contractors retained by the Company to assist in its research and development. Research and development expenses increased by DM 419.9 million, or 59.8%, from DM 701.8 million in 1997 to DM 1,121.7 million in 1998. As a percentage of total sales revenues, research and development expenses increased from 11.7% for 1997 to 13.3% for 1998. The reason for the increase in research and development expense as a percentage of total revenues was the significant investment made by the Company in 1998. See "Item 1. Description of Business — Research and Development." Of the Company's total research and development expenses for 1997 and 1998, 47.1% and 42.8%, respectively, constituted personnel expenses. The number of research and development employees increased from 2,876 in 1997 to 4,818 in 1998, representing an increase of 67.5%.

## *Year Ended December 31, 1997 Compared with Year Ended December 31, 1996*

### Sales Revenues

Total sales revenues increased from DM 3,722.2 million for 1996 to DM 6,017.5 million for 1997, representing an increase of DM 2,295.3 million or 61.7%. The revenue items contributing to the increase in total sales revenues in 1997 were increases in product revenues of 55.8%, consulting revenues of 70.2% and training revenues of 89.4% compared to 1996.

*Product Revenues.* Product revenues increased from DM 2,630.5 million for 1996 to DM 4,097.1 million for 1997, representing an increase of DM 1,466.6 million or 55.8%. Aggregate product revenues as a percentage of total sales revenues were 70.7% in 1996 and 68.1% in 1997. The primary reason for this growth in product revenue was an increase in the number of software licenses for new and existing customers, the expansion of the Company's operations, particularly in the Americas and Asia-Pacific regions and growth in vertical markets through the Industry Specific Products program. The growth in product revenue was also attributable to strong demand for software that complied with "Year 2000" requirements and with the EMU's

conversion to the euro, including business processing during the dual-currency phase. In addition, increased demand within the application software industry was driven by continued globalization of businesses and the need for an increased level of integration between businesses and their partners in the areas of collaboration, supply chain and electronic commerce. Furthermore, a general increase in information technology spending resulted from companies' desires to obtain better data more quickly, thus allowing for faster responses to increased levels of industry competition.

Product revenues attributable to the R/2 System declined by 8.2% from DM 242.5 million in 1996 to DM 222.6 million in 1997. This decline was due primarily to the general shift in computer hardware from mainframe-oriented data processing to the client/server model of computing.

*Consulting and Training Revenues.* Consulting revenues increased from DM 735.3 million in 1996 to DM 1,251.2 million in 1997, representing an increase of 70.2%. Consulting revenues as a percentage of total sales revenues increased from 19.8% in 1996 to 20.8% in 1997.

Training revenues increased by 89.4% from DM 306.1 million in 1996 to DM 579.9 million in 1997. This increase was primarily due to the increase in the number of installations, significant capital investments that were made in the infrastructure of the training operations during 1996 and increased customer satisfaction. Additionally, during 1997 customers were able to purchase training materials that allowed the training application to be customized for their internal training needs.

#### Operating Expenses

Operating expenses increased from DM 2,853.2 million for 1996 to DM 4,487.7 million for 1997, representing an increase of DM 1,634.5 million or 57.3%. The primary expense items contributing to the increase in these expenses are outlined below.

*Cost of Services and Materials.* The cost of services and materials increased by 53.6% from DM 394.4 million for 1996 to DM 605.7 million for 1997. The primary reason for this increase was the continuing growth of purchased services for third-party consulting.

*Personnel Expenses.* Personnel expenses increased by 55.0% from DM 1,338.5 million for 1996 to DM 2,074.9 million for 1997. The overall number of employees increased from 9,202 to 12,856 at December 31, 1996 and 1997, respectively. The number of sales and marketing employees increased from 1,735 to 2,423 at December 31, 1996 and 1997, respectively, representing an increase of 39.7%.

*Depreciation and Amortization.* Depreciation and amortization increased from DM 164.6 million for 1996 to DM 195.3 million for 1997, representing an increase of 18.7%.

*Other Operating Expenses.* Other operating expenses increased from DM 955.7 million for 1996 to DM 1,611.7 million for 1997, representing an increase of 68.6%. This increase is attributable to increased marketing, license, travel and rent expenses to support the continued growth of operations. The Company continued to lease computer hardware and equipment in 1997 to keep pace with the rapid advancement of computer hardware technology, which in turn increased rent expenses in 1997.

#### Financial Income, net

Financial income, net increased from DM 23.6 million for 1996 to DM 54.7 million for 1997, an increase of 132%. The continuing improvement in financial income, net, was due to a larger average portfolio of cash and cash equivalents and marketable securities.

#### Results from Ordinary Operations

Results from ordinary operations (pretax profits) increased from DM 967.2 million in 1996 to DM 1,666.9 million in 1997, or 72.3%. Results from ordinary operations as a percentage of total sales revenue (pretax margin) increased to 27.7% in 1997 from 26.0% in 1996.

## Taxes on Income

The Company's effective income tax rate on results from ordinary operations increased from 39.5% for 1996 to 42.5% for 1997. This increase was due primarily to differing local tax treatments associated with the 1996 conversions and distributions under the 1994 Program. The deductions taken for the 1997 distribution related to the 1994 Program were not significant. See "Item 12. Options to Purchase Securities from Registrant of Subsidiaries — 1994 Bonds."

## Net Income

Net income increased from DM 567.5 million in 1996 to DM 925.4 million in 1997, or 63.1%. Net income as a percentage of total sales revenues increased from 15.2% for 1996 to 15.4% for 1997.

## Research and Development Expenses

Research and development expenses increased by DM 196.3 million, or 38.8%, from DM 505.5 million in 1996 to DM 701.8 million in 1997. As a percentage of total sales revenues, research and development expenses decreased from 13.6% for 1996 to 11.7% for 1997. The reason for the decline in research and development expense as a percentage of total revenues was the continued rapid growth rate of revenues related to sales of the R/3 System. Of the Company's total research and development expenses for 1996 and 1997, 43.3% and 47.1%, respectively, constituted personnel expenses. The number of research and development employees increased from 2,059 in 1996 to 2,876 in 1997, representing an increase of 39.7%.

## Liquidity and Capital Resources

Historically, the Company has funded most of its growth internally from cash flow from operations and the sale of marketable securities. Over the past several years, the Company's principal use of cash was to support continuing operations and capital additions resulting from the Company's growth.

For the year ended December 31, 1998, the Company's cash provided by operations amounted to DM 1,226.8 million, an increase of DM 318.5 million from DM 908.3 million for the year ended December 31, 1997. Accounts receivable increased from DM 2,435.7 million at December 31, 1997 to DM 2,964.6 million at December 31, 1998, representing an increase of DM 528.9 or 21.7%. The increase in accounts receivable during the period is attributable generally to the increased level of licensing of the R/3 System and the relatively large monetary commitment of customers who are parties to such license agreements. Customers committing to a large licensing fee often negotiate payment terms over a longer period than the term contained in the Company's standard licensing agreement. Accounts payable during the same period increased at a rate of 41.4% or DM 131.9 million to DM 450.2 million at December 31, 1998 from DM 198.9 million at December 31, 1997. The increase in accounts payable was due primarily to the large increase in the amount of fixed assets, including buildings, computer hardware and third-party consulting services purchased by the Company, generally to support the growth in licensing of SAP Software Products.

Investing activities used DM 492.5 million of cash in 1998, a decrease of DM 134.1 million from DM 626.6 million in 1997. Capital expenditures of the Company during 1998 were DM 760.0 million, an increase of DM 185.3 million from DM 574.7 million in 1997. Most of the capital expenditures in 1998 related to the construction of buildings and to the purchase of computer hardware, and other business equipment to support the increased number of employees and the capitalization of goodwill associated with 1998 acquisitions. In addition, during 1999, the Company expects to spend approximately DM 382 million for the purchase of computer hardware and other business equipment to support the increased number of employees and approximately DM 365 million primarily to fund the development of additional corporate campuses in Walldorf, Germany, and in Pennsylvania.

In the third quarter of 1997, the Company acquired a 25.2% interest in IDS Scheer AG (formerly, IDS Prof. Scheer Gesellschaft für integrierte Datenverarbeitungssysteme mbH) ("IDS"). The principal shareholder of IDS is Professor Dr. August Wilhelm Scheer, who was a member of SAP's Supervisory Board at the time of such acquisition. In the fourth quarter of 1997, the Company acquired a 50% interest in SAP Labs

GmbH, Mannheim (formerly, Kiefer & Veitinger GmbH). In the second quarter of 1998, the Company acquired an additional 30.2%, and in the first quarter of 1999 the Company acquired the remaining 19.8%. Acquisitions in 1998 did not, individually or in the aggregate, materially affect the comparability of the current financial information with that of prior years.

Financing activities used cash of DM 221.9 million in 1998, an increase of DM 57.1 million from DM 164.8 million in 1997. At December 31, 1998, the Company had outstanding long-term financial debt of DM 51.7 million, consisting primarily of money borrowed by SAP Japan, the outstanding 1994 Bonds and short-term financial debt of approximately DM 188.3 million (consisting primarily of money borrowed by SAP Japan and guaranteed by the Company).

Certain of the Company's foreign subsidiaries have lines of credit available which allow them to borrow in the local currency, to the extent SAP that has guaranteed the repayment of amounts borrowed. At December 31, 1998, the Company had approximately DM 526.7 million available through such arrangements under which the Company may borrow on an overdraft or short-term basis. Interest under these lines of credit is determined at the time of borrowing based on current market rates.

The STAR Plan provides for the grant of SARs to Executive Board members and eligible executives and employees of SAP and its wholly-owned subsidiaries. No payments were made with respect to the 1998 SARs because the grant price (DM 785) exceeded the end price (approximately DM 659 or EUR 337). In May 1999, the Executive Board and the Supervisory Board authorized the granting of 1.6 million SARs (the "1999 SARs") to eligible employees and executives. Any amounts accrued under the STAR Plan will be recorded as compensation expense in the Company's consolidated income statements and may negatively impact the Company's results of operations, net income and cash flows. In 1998, the Company accrued reserves of DM 47.5 million with respect to the 1998 SARs. Because of the decline in the price of the Preference Shares subsequent to December 31, 1998, these accrued amounts (as adjusted for U.S. GAAP) were reversed during the first quarter of 1999. See "Item 12. Options to Purchase Securities from Registrant or Subsidiaries — STAR Plan."

The Company believes that cash flow from operations, existing cash and cash equivalents and short-term marketable securities will be sufficient to meet the Company's working capital needs and currently planned capital expenditure requirements for the next 12 months. However, there can be no assurance that a downturn in the economy worldwide, or for a particular region, or for the Company's products and services in general, will not change this outlook.

The Company may from time to time consider acquisitions of complementary businesses, products or technologies, which could require additional financing. In addition, continued growth in the Company's business may from time to time require additional capital. There can be no assurance that additional capital will be available to the Company if and when required, or that such additional capital will be available on acceptable terms to the Company.

### **Year 2000 Compliance**

The Year 2000 issue is a result of computer systems and other electronic equipment using processors or embedded chips which are coded to accept only two digit entries in the date code field and not being able to distinguish whether "00" means 1900 or 2000. These date code fields will need to accept four digit entries to distinguish 21st century dates from 20th century dates. The potential for system errors and failures involves proprietary and third-party IT and non-IT systems used in all aspects of the Company's operations, including computer systems, voice and data networks and the infrastructure of its facilities.

*State of Readiness.* The Company has performed extensive testing to validate that current versions of the R/3 System and the R/2 System are Year 2000 compliant. These testing processes were monitored and certified by the RW Technischer Überwachungs Verein e. V. (RWTÜV) to verify that such testing processes were sufficient to determine that such software products are Year 2000 compliant. While current versions of the R/2 System were determined to be Year 2000 compliant based upon these testing processes, certain outdated versions of the R/2 System may require an upgrade to be made Year 2000 compliant. Additionally,

while current versions of the R/3 System were determined to be Year 2000 compliant based upon these testing processes, certain outdated versions of the R/3 System may require an upgrade to resolve certain Year 2000 compliance issues arising from the integration of such versions of the R/3 System with third-party database software or third-party operating system software. Based upon the information collected by the Company to date, only a small minority of the Company's customers have in productive use such outdated versions of the R/3 System which require an R/3 System upgrade. Certain other R/3 System customers may only require a minor update, which generally can be completed in several hours, to resolve Year 2000 compliance issues relating to third-party database or operating system integration. In limited cases where a customer is required to upgrade its third-party database or third-party operating system for Year 2000 compliance of these third-party products, a minor update of the R/3 System may be required to integrate it properly with such third-party products.

The Industry Specific Products and independent business solutions have been designed and developed to be Year 2000 compliant, and have been or are being tested internally by the Company to verify that such software products are Year 2000 compliant.

The SAP Software Products, including the Systems, were developed to function directly with database software, computer operating systems and other complementary computer software and hardware products developed and maintained by independent third-party vendors. While such independent vendors may provide information with respect to the Year 2000 compliance of their respective products, the Company has not tested such third-party products to verify that they are Year 2000 compliant.

Except as set forth above, the Company does not expect any Year 2000 compliance issues to arise related to the Systems or the other SAP Software Products. However, there can be no assurance that the Systems, the other SAP Software Products or complementary third-party products that interact with SAP Software Products will operate properly in the Year 2000. Such failure of the Systems, the other SAP Software Products or complementary third-party products to be Year 2000 compliant could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

The Company's internal business information systems primarily comprise the same commercial application software products generally offered for license by the Company to end-user customers and, therefore, as discussed above, have been tested extensively to validate that they are Year 2000 compliant. However, the Company's internal business processes rely on third-party vendor network equipment, telecommunication products and other third-party software and hardware products which may or may not be Year 2000 compliant. In 1998, the Company established a corporate task force to coordinate its internal Year 2000 project across all business functions and geographic areas. This task force periodically presents status reports on the Year 2000 project to the Company's Executive Board.

The Company's Year 2000 project involves the following five steps to prepare internally for the Year 2000:

- 1) Inventory — build an inventory of critical components used in the hardware, software and embedded systems;
- 2) Assessment — assess Year 2000 compliance of third-party IT and non-IT systems and products through independent research and by requesting third-party vendors and service providers to certify Year 2000 readiness;
- 3) Remediation — Determine which third-party IT and non-IT systems and products to replace, retrofit or retire; initiate and implement conversion to Year 2000 compliant systems;
- 4) Testing — assess remaining risks and develop and implement test scenarios; and
- 5) Contingency plans — develop, implement and monitor contingency plans.

To date, approximately 40% of the Company's Year 2000 project has been completed, including 90% of the inventory and assessment steps and approximately 70%, 20% and 40% of the remediation, testing and

contingency plans steps, respectively. The Company expects that its Year 2000 project will be substantially completed by September 1999.

*Costs.* The Company currently estimates that the costs associated with its Year 2000 project will be approximately DM 6.4 million. This estimate comprises primarily allocated costs of the Company's participating employees, the cost of hardware and software required to complete year 2000 testing within the Company and consulting fees. Through the year ended December 31, 1998, approximately DM 1.3 million of costs associated with the Year 2000 project have been incurred. These costs are charged to expenses as they are incurred.

*Risks; Contingency Plans.* There can be no assurance that the IT and non-IT systems and products of the Company's third-party business partners, suppliers, government entities, customers or others will achieve Year 2000 compliance in a timely manner. The Company expects that the actions currently being taken will significantly reduce the risks of an adverse impact. However, due to the scope of the Company's operations and the extent of Year 2000 risks, it is likely that the Company will not be able to eliminate all potential problems before they arise. The Company believes that the reasonably worst case scenarios in connection with the Year 2000 problem include: (i) corruption of data contained in the Company's internal information systems; (ii) hardware failure; and (iii) the failure of infrastructure services provided by government agencies or other third parties, such as electricity, telecommunications services or water transport. Failure of any critical IT or non-IT components to operate properly in the Year 2000 may have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

As part of its Year 2000 project, the Company is in the process of completing its contingency plans for both IT and non-IT systems. These contingency plans include, among other things, "work-arounds" for software and hardware failures, substitution of systems and identification of key contacts worldwide who will be responsible for addressing specific issues and implementing contingency plans.

It has been widely reported that a significant amount of litigation will arise out of Year 2000 compliance issues, and the Company is aware of the growing number of lawsuits against other software vendors concerning Year 2000 compliance. Since this area of law is relatively new, the Company cannot predict how it will be affected. There can be no assurance that the Company will not be the subject of a lawsuit concerning Year 2000 compliance. A lawsuit of this nature, with or without merit, could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

The Company's business, financial condition, results of operations or cash flows may be materially adversely affected by the impact of the Year 2000 issue on the purchasing patterns of the Company's customers and potential customers. See "— Factors That May Affect Future Results and Market Price of Stock — Effects of Year 2000 Issues on Customer Purchasing Behavior."

## **Euro Currency**

Effective January 1, 1999, the euro was introduced in the 11 member states of the European Union (including Germany) participating in the EMU as a common legal currency among those states for "paperless" transactions, pending the substitution of euro bank notes and coins for the national currencies of the participating member states between January 1, 2002 and July 1, 2002. Effective July 1, 2002, the euro will be the official legal tender for the participating member states, and the national currencies of those member states will be withdrawn from circulation. Accordingly, until July 1, 2002, business in participating member states will be conducted in both the existing national currency and the euro and, thereafter, exclusively in the euro, and companies operating in or conducting business in these participating member states will need to ensure that their financial and other software systems are capable of processing transactions and properly handling these currencies, including the euro. As of January 1, 1999, fixed exchange rates were introduced, according to which funds denominated in the currency of one participating member state are converted into the currency of another participating member state. Effective February 26, 1999, all of SAP's share capital was converted to the euro.

*Products.* The transition to the euro involves changing budgetary, accounting and fiscal systems in companies and public administration, as well as the simultaneous handling of national and euro currencies. Additional programs are necessary to convert legacy data. SAP Software Products are designed to accommodate the implementation of the euro, and the Company believes that it will be able to accommodate any required euro changes in SAP Software Products. However, there can be no assurance that SAP Software Products will contain all euro currency requirements. Any inability of the SAP Software Products to comply with euro requirement could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

*Competitive Implications.* The Company does not expect the conversion to the euro to have a material effect on the pricing of the Company's products and services or on the markets for SAP Software Products. As a result, the Company believes that the introduction of the euro will not have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

*Systems.* Effective as of January 1, 1999, the Company adopted the euro as its financial accounting and reporting currency. Because the Company's internal business information systems primarily comprise the same commercial application software products generally offered for license by the Company to end-user customers, the Company does not expect that the euro conversion will have a material adverse effect on its business, financial condition, results of operations or cash flows.

*Currency and Foreign Exchange Exposure.* The introduction of fixed exchange rates among the participating member states and the ultimate transition to the euro will eliminate the need for currency exchange transactions in the national currencies of these states, resulting in transaction cost savings to companies, such as the Company, based in those states. In addition, interest rate differences between the participating member states will also disappear, eliminating the basis for hedging and other derivative transactions with respect to such national currencies and thereby creating further opportunities for transaction cost savings. The substitution of the euro for existing national currencies in the participating member states will also trigger the need to modify many financial instruments, including derivatives. These instruments will most likely be replaced by instruments denominated in the euro or subject to exchange rates or interest rates based on the euro. To the extent that the Company engages in significant hedging and other investment transactions in the national currencies of the participating member states, it expects that its foreign exchange rate exposure will be reduced as a result of the introduction of the euro. Moreover, the Company believes that it may realize annual savings due to reduced transaction and foreign currency hedging costs. There can be no assurance, however, when and to what degree the Company will ultimately realize these benefits from the introduction of the euro.

### **Factors That May Affect Future Results and Market Price of Stock**

The Company operates in a dynamic and rapidly changing environment that involves numerous risks and uncertainties, some of which are beyond the Company's control. The following discussions highlights some of these risks.

#### *Hiring and Retention of Employees*

The Company's success is dependent upon its ability to attract and retain highly skilled managerial, research and development, technical (e.g., consulting and customer support) and marketing personnel. The Company's success could be adversely affected if senior managers or other such skilled personnel were to leave the Company and qualified replacements were not available. Competition for managerial and skilled personnel in the software industry is intense. Such personnel in certain regions (including the United States) are in short supply. As a result, technology firms have been, and may continue to be, required to increase compensation and incentives in order to continue to recruit and retain this talent. In addition, most of the Company's current key employees are subject to employment agreements or conditions which (i) do not contain post-employment non-competition agreements and (ii) in the case of most of the Company's existing employees outside of Germany, permit the employees to terminate their employment on relatively short notice. There can be no assurance that the Company will continue to be able to attract and retain the personnel it requires to

develop and market new and enhanced products and to market and service its existing products and conduct its operations successfully, and any inability to do so could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. In addition, the Company may experience increased compensation costs in order to attract and retain skilled employees.

#### *Management of Growth; Cost Structure*

During the past several years, the Company has experienced rapid and substantial growth throughout its global operations, with sales revenues increasing from DM 6,017.5 million in 1997 to DM 8,465.3 million in 1998 and the number of its employees increasing from 12,856 at December 31, 1997 to 19,308 at December 31, 1998. The Company continued to hire new employees during the first quarter of 1999. There can be no assurance that the Company's significant increases in employees and infrastructure will result in comparable growth in revenue or operating results in the future. The Company's recent increases in costs have taken place during a period when the growth in demand for enterprise resource planning software has slowed, principally as a consequence of the Year 2000 issue. See "— Effects of Year 2000 Issues on Customer Purchasing Behavior." As a result, the Company experienced a reduction in revenues per employee in 1998 compared to 1997. This trend may continue into the future unless the Company is able to increase its software licensing revenues by, among other things, successfully bringing its new products to market. In addition, future increases in the Company's overall profit margins will depend on its ability to increase its software licensing revenues at a rate in excess of its growth rate in historically lower-margin services revenue. See "— Revenue Mix." There can be no assurance that the Company can effectively organize, train, supervise, integrate and utilize its personnel throughout its global presence, or that the level or quality of service to its customers will be adequate to satisfy their expectations or, especially with respect to the performance of any of the Company's partners or other third parties, be satisfactorily monitored and controlled. Any inability to manage growth effectively could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *Competitive Environment; Rapid Technological Change*

The software industry is intensely competitive. The Company has global, regional and local competitors. Some of the Company's competitors and many of the Company's potential competitors are involved in a wider range of businesses, and some competitors and potential competitors have a larger installed customer base for their products and services, or have significantly greater financial, technical, marketing and other resources than the Company, enhancing their ability to compete with the Company.

The Company's primary product, the R/3 System, is designed to provide customers with a palette of standard business solutions arranged in applications which provide integrated enterprise-wide processing of business work flows. There are many other companies engaged in the research, development and marketing of standard application software and associated applications development tools and decision support products, some of which may develop (or may have already developed) an overall concept which may be perceived to be as good as or better than the Systems. As a result, competition, including with respect to product quality, consulting and support services and pricing, could increase substantially and result in price reductions or loss of market share. In response to competition, the Company has been required in the past, and may be required in the future, to furnish additional discounts to customers or otherwise modify its pricing practices, which may negatively impact revenues in the periods recognized and for succeeding periods. Such discounts or other modifications may have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

In addition, the Company, together with certain of its business partners, has commenced offering certain SAP Software Products to medium- and smaller-sized customers as a component of outsourcing offerings, in which license and maintenance fees may be paid to the Company on a per user, per month or similar subscription basis (rather than an upfront license fee payment). While the Company expects that its outsourcing program will generate incremental revenue from medium- and smaller-sized customers, there can be no assurance that such program will be successful or, if successful, that it will not negatively impact the Company's standard pricing model. In addition, the proliferation of outsourcing of enterprise business

applications could result in increased competition through the entry of systems integrators, consulting firms, telecommunications firms, computer hardware vendors and other outsourcing providers. There can be no assurance that such negative impact on the Company's standard pricing model or increased competition will not have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

Since the launch of the R/3 System in the early 1990s, several competitors have entered the market offering enterprise-wide, client/server business application software. The Company believes that its experience with business process applications, its increasingly flexible, component-based installation options and its focus on Industry Specific Products give it a competitive advantage, but there can be no assurance that the Company's strategies will prove to be successful. Historically, most of the Company's competitors provided solutions which covered certain functional areas, offering the customer a software application product designed for a specific business or manufacturing process. Such products compete with individual functions offered by the Company. The Company's competitors have already broadened, or are implementing plans to broaden, the scope of their business activities into other areas of the market. A successful niche competitor may be able to capitalize upon the success of a niche product by developing and marketing broader system applications in competition with the Company. Niche competitors may also benefit from alternative delivery systems, such as the Internet, to become more competitive with the Company. Therefore, there can be no assurance that the Company will be able to compete successfully with its existing competitors or with new competitors in the marketplace. Such inability to compete could have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

The Company's success will also depend in part on its ability to continue to develop and introduce to the market product enhancements and new solutions which respond to the rapid changes in hardware and software technology and communication and business channels (such as the Internet). In addition, the Company must respond to changes in customers' business practices and needs. Many of the Company's New Dimension products will compete directly with products which have been established in their respective market niche for some period of time and which may have a significant existing installed base of customers. There can be no assurance that the development of these or any other Company products will be completed in a timely manner, or at all, in order to compete with the products offered by competitors. Nor can there be any assurance that the Company will be successful in anticipating and developing product enhancements or new solutions to address adequately changing technologies and customer requirements, or that any such enhancements or solutions will be successful in the marketplace. The Company's failure to anticipate and develop technological improvements, to adapt its products to technological change, emerging industry standards and customer requirements or to produce high-quality products, enhancements and releases in a timely manner in order to compete with applications offered by its competitors, could have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

#### *Implementation Time and Costs*

Implementation of the Company's software is a process that often involves a significant commitment of resources by the Company's customers and is subject to a number of significant risks over which the Company has little or no control. Some of the Company's customers have incurred significant third-party consulting costs and experienced protracted implementation times in connection with the purchase and installation of the R/3 System. The Company believes that these costs and delays were due in many cases to the fact that, in connection with the implementation of the R/3 System, these customers conducted extensive business re-engineering projects involving complex changes relating to business processing within the customer's own organization. However, criticisms regarding these additional costs and protracted implementation times have been directed at the Company, and there have been, from time to time, shortages of Company-trained consultants available to assist customers in the implementation of its products. While the Company believes that its products can be installed as efficiently as comparable software offered by its competitors, it has established initiatives offering accelerated installation support and/or fixed fees for certain R/3 System installation projects. In addition, the success of new software products introduced by the Company may be adversely impacted by the perceived time and cost to implement existing SAP Software Products or the actual

time and cost to implement such new products. There can be no assurance that such protracted installation times or criticisms of the Company will not continue, that shortages of Company-trained consultants will not occur or that the costs of installation projects will not exceed the fixed fees being charged by the Company. The occurrence of such protracted installation times, criticisms, shortages or excesses may have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *Product Development*

The Company's future success will depend in part upon its ability to: (i) continue to enhance and expand its core applications; (ii) continue to provide best-in-class enterprise solutions; (iii) enter new markets; and (iv) develop and introduce new products that satisfy increasingly sophisticated customer requirements, that keep pace with technological developments (including, in particular, developments related to the Internet) and that are accepted in the market. The Company is devoting significant resources to the enhancement of its existing products and the development of new product lines, including the Industry Specific Products, the New Dimension products and its mySAP.com offerings. While the Company believes that these new products and product enhancements and the mySAP.com offerings, create significant potential for market growth, there can be no assurance that they will be developed or introduced in a timely manner or that they will be successful in the market. The failure of such new products and product enhancements or the mySAP.com offerings to be developed and introduced into the market, to be successful in the market or otherwise to generate increased revenues could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

New products and product enhancements can require long development and testing periods to achieve market acceptance, which may result in delays in scheduled introduction. Such new products and product enhancements may also sometimes contain a number of undetected errors or "bugs" when they are first released. In the first year following the introduction of certain releases, the Company generally devotes significant resources, primarily consulting services, to work with early customers to correct such errors. There can be no assurance, however, that all such errors can be corrected to the customer's satisfaction, with the result that certain customers may seek cash refunds, replacement software or other concessions. See "— Warranty and Other Claims." Moreover, the risks of error and their adverse consequences may increase as the Company seeks simultaneously to introduce a variety of new software products, in greater numbers than ever before.

Although the Company extensively tests each release before introducing it to the market, there can be no assurance that significant errors will not be found in existing or future releases of Company software products, with the possible result that significant resources and expenditures may be required in order to correct such errors or otherwise satisfy customer demands. Significant undetected errors or delays in new products or new versions of a product may affect market acceptance of Company software products and could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *Effects of Year 2000 Issues on Customer Purchasing Behavior*

The Company believes that issues relating to the Year 2000 "millennium bug" have affected, and may continue to affect, the purchasing patterns of the Company's customers and potential customers. Over the past several years, companies have expended significant resources to replace, correct or patch their current software systems for Year 2000 compliance. The Company believes that, during prior years and the first half of 1998, such expenditures had a positive impact on the purchase of the software products offered by the Company and the rest of the enterprise resource planning industry, as many customers elected to replace non-compliant legacy systems with compliant enterprise resource planning software. The Company believes that, beginning in the second half of 1998, however, companies began to dedicate available resources to the testing and correction of existing systems for Year 2000 readiness, resulting in reduced resources available to such customers and potential customers for the purchase of long lead-time software products such as those offered by the Company. Moreover, the Company believes that this shift in customer purchasing behavior started in mid-1998, well before the advent of the Year 2000, as customers perceived that the implementation time and costs of switching their legacy systems to enterprise resource planning software forced them to make an early

decision whether to make the switch in time for January 1, 2000, or to delay the switch until later. As a result, the Company, and the enterprise software industry in general, has experienced significant deceleration from the strong annual growth rates in product revenue experienced in recent prior years, which deceleration continued through the first quarter of 1999. While the Company believes that many companies will have completed the testing and correction of existing systems for Year 2000 readiness by the second half of 1999, there can be no assurance that customer resources will again be available at that time for the improvement of internal business systems. Even once customer resources are again available, it may take some time for any increase in demand for enterprise resource planning software to translate into meaningful increased growth in the Company's revenues and pretax profits since the Company's enterprise resource planning software has a relatively long sales cycle. Thus, while the Company believes that customer demand for SAP Software Products will increase, there can be no assurance that this increase will occur by the second half of 1999 or at a later time, or that it will in fact occur at all, or that it will result in immediate benefits to the Company. Thus, current and future shifts in customer spending purchasing behavior could result in a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *Variability of Quarterly Operating Results*

The Company's net revenues and operating results can vary, sometimes substantially, from quarter to quarter. The Company's revenues in general, and in particular its license revenues, are difficult to forecast for a number of reasons, including: (i) the relatively long sales cycles for the Company's products; (ii) the size and timing of individual license transactions; (iii) the timing of the introduction of new products or product enhancements by the Company or its competitors; (iv) the potential for delay or deferral of customer implementations of SAP Software Products; (v) changes in customer budgets; (vi) seasonality of a customer's technology purchases; (vii) the effect of U.S. GAAP on software revenue recognition; and (viii) other general economic and market conditions.

Historically, the Company's business, as is common in the software industry, has experienced its highest revenues in the fourth quarter of each year, due primarily to year-end capital purchases by customers. Such factors have resulted in 1998, 1997 and 1996 first quarter revenues being lower than revenues in the prior year's fourth quarter. This trend continued in the first quarter of 1999, and the Company believes that this trend will continue in the future and that its revenues will peak in the fourth quarter of each year and decline from that level in the first quarter of the following year. Because the Company's operating expenses are based upon anticipated revenue levels and because a high percentage of the Company's expenses are relatively fixed in the near term, any shortfall in anticipated revenue or delay in recognition of revenue could result in significant variations in the Company's results of operations from quarter to quarter.

The Company significantly increased in 1998, and plans to continue to increase in 1999, expenditures in order to fund continued development of its operations, greater levels of research and development, a larger direct and indirect sales and marketing staff, development of new distribution and resale channels and broader customer support capability. Such increases in expenditures will depend, among other things, upon ongoing results and evolving business needs. To the extent such expenses precede or are not subsequently followed by increased revenues, the Company's quarterly operating results would be materially adversely affected and may vary significantly from preceding or subsequent quarters.

#### *Revenue Mix*

Growth in software licensing revenues in the enterprise resource planning software industry has exhibited a declining trend since the middle of 1998, while at the same time industry growth in revenues generated from services continues to accelerate. This trend continued for the Company in the first quarter of 1999. Variances or slowdowns in the Company's prior licensing activity may negatively impact its current and future revenues from services since such services revenues typically lag license fee revenues. Accordingly, future growth in such services revenues may depend on the Company's ability to increase the installed base of SAP Software Products. In addition, growth in service revenues will depend on the Company's ability to compete effectively in obtaining customer engagements to provide services related to SAP Software Products.

On average, the Company's revenues from services historically require a higher level of expenditures as a percentage of revenues when compared to the Company's revenues from licensing SAP Software Products. In particular, the Company used significant third-party consulting services in connection with the TeamSAP initiative. These costs incurred by the Company for such third-party consulting services were charged to customers as consulting service fees, which are reflected in consulting revenues. Any decrease in the percentage of the Company's total revenues derived from software licensing could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *Reliance on Third Parties*

The Company has entered into agreements with a number of leading computer software and hardware vendors and telecommunications providers to cooperate to ensure that certain of the software and hardware products produced by such vendors are compatible with SAP Software Products. The Company has also supplemented its consulting and support services (in the areas of product implementation, training and maintenance) through "alliance partnerships" with third-party hardware and software vendors, systems integrators, major accounting firms and other consulting firms. Most of these agreements and partnerships are of relatively short duration and all are non-exclusive. In addition, the Company has established relationships relating to the resale of certain SAP Software Products by third parties. These third parties include certain value-added resellers and, in the area of outsourcing services, certain computer hardware vendors, systems integrators and telecommunications providers. There can be no assurance that these third parties or partners, most of which have similar arrangements with the Company's competitors and some of which also produce their own standard application software in competition with the Company, will continue to cooperate with the Company when such agreements or partnerships expire or are up for renewal. In addition, there can be no assurance that such third parties or partners will provide high-quality products or services. The failure to obtain high quality products or services or to renew such agreements or partnerships could adversely affect the ability of the Company to continue to develop product enhancements and new solutions which keep pace with anticipated changes in hardware and software technology and telecommunications, or could adversely affect the market for SAP Software Products, and, as a result, could adversely affect the Company's business, financial condition, results of operations or cash flows.

The Company licenses numerous critical third-party software products that it incorporates into its existing software products. The termination of any of the Company's licenses for such third-party software, or the Company's inability to license critical third-party software for future products, could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. These adverse effects could include, for example, SAP Software Products becoming inoperable or their performance being materially reduced, with the result that the Company may need to incur additional development costs to ensure continued performance of its products. In addition, a material increase in the costs of licensing any of these third-party software products could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *General Economic and Market Conditions*

The licensing of SAP Software Products is normally only one element of a significant capital investment by a customer in business information systems. This investment typically also includes hardware and telecommunications procurement, implementation and training and often a major re-engineering of the customer's corporate business practices. Implementation of the Systems can constitute a major portion of the customer's overall corporate services budget, and the amount customers are willing to invest in acquiring and implementing such Systems has tended to vary in cycles that reflect overall economic conditions. A recession or other difficulty in the economies where the Company licenses its products, including the United States, Latin America, Europe and Asia, could have a material adverse effect on the Company's business, financial condition, operating results or cash flows.

The Company has reassessed, and continues to closely monitor, its international business risks due to recent economic and political conditions in the Asia-Pacific region. The economic and financial crisis in Japan significantly impacted the Company's operating results for 1998. At the beginning of the year, it appeared that

the Company's operations in Japan would not be significantly influenced by the crisis. Late in the second quarter of 1998, Japanese businesses began to scale down planned implementations of SAP Software Products or to schedule these projects over a longer period than first anticipated. As a result, product purchasing cycles in Japan became more unpredictable. Although at that time the Company expected that the situation in Japan would not improve quickly, and consequently adjusted internal expectations more than once, the worsening of the crisis and its effects on the Company, in particular at the end of 1998, was not anticipated by the Company. These developments led to product sales revenues for SAP Japan that were approximately DM 200 million lower than had been planned. As a result of this shortfall in product revenues, SAP Japan incurred a loss of approximately DM 100 million for the year ended December 31, 1998. In early 1999, the Company's Japanese sales operation was reorganized to improve the accuracy and quality of sales forecasting, as well the Company's orientation to the altered purchasing behavior of major companies in Japan. However, there can be no assurance that the current economic or political conditions in Japan or in the other countries of the Asia-Pacific region will not worsen or that the situation will not negatively impact the Company's business, financial condition, results of operations or cash flows.

During 1998, the financial crisis in the countries of the former Soviet Union led companies operating in the area to be confronted with ever-worsening solvency problems. As a result, the Company made allowances in 1998 for its operations in Russia, resulting in a reduction in its 1998 results from ordinary operations by approximately DM 40 million, and has changed from the accrual to the cash basis of accounting in Russia. There can be no assurance that the current financial crisis in Russia or the other countries of the former Soviet Union or the economic or political conditions in other countries in eastern Europe will not worsen or that the situation will not further negatively affect the Company's business, financial condition, results of operations or cash flows.

#### *Dependence on Proprietary Technology*

The Company relies on a combination of the protections provided by applicable trade secret, copyright, patent and trademark laws, license and non-disclosure agreements and technical measures to establish and protect its rights in its software products. There can be no assurance that these protections will be adequate or that the Company's competitors will not independently develop technologies that are substantially equivalent or superior to the Company's technology. Despite the Company's efforts, it may also be possible for third parties to copy certain portions of the Company's products or reverse-engineer or otherwise obtain and use information that the Company regards as proprietary. In addition, the laws of certain countries do not protect the Company's proprietary rights to the same extent as do the laws of the United States or Germany. Accordingly, there can be no assurance that the Company will be able to protect its proprietary software against unauthorized third-party copying or use, which could adversely affect the Company's competitive position.

Some of the Company's competitors may have been more aggressive than the Company in applying for or obtaining patent protection for innovative proprietary technologies. The Company has a patent program; however, although the Company has a number of patent applications pending for inventions claimed by the Company, no patents have yet issued. There can be no assurance that, in the future, patents of third parties will not preclude the Company from utilizing a technology in its products or require the Company to enter into royalty and licensing arrangements on terms that are not favorable to the Company.

The Company is not presently aware of any claims of infringement by its products of third-party proprietary rights that it believes will have a material adverse effect upon the Company's business, financial condition, results of operations or cash flows. However, the Company expects that its software products will increasingly be subject to such claims as the number of products and competitors in the Company's industry segment grows and the functionality of products overlap. There can be no assurance that, in the future, a third party will not assert that the Company's technology violates its patents, copyrights or trade secrets. Any such claims, with or without merit, can be time consuming for management personnel and result in costly litigation. Moreover, the settlement or adverse resolution thereof could require the Company to enter into royalty and licensing arrangements which may be not be available on terms acceptable to the Company, and the Company

may be unable to develop or license a substitute technology. The occurrence of any such event could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *Warranty and Other Claims*

The use of SAP Software Products by customers in business-critical applications and processes creates the risk that customers or other third parties may pursue warranty or other claims against the Company in the event of actual or alleged failures of SAP Software Products. The Company has in the past been, and may in the future continue to be, subject to such warranty or other claims related to the functioning of SAP Software Products. In addition, certain of the Company's Internet browser-enabled products include security features that are intended to protect the privacy and integrity of customer data. Despite these security features, the Company's products may be vulnerable to break-ins and similar problems caused by Internet users, such as hackers bypassing firewalls and misappropriating confidential information. Such break-ins or other disruptions could jeopardize the security of information stored in and transmitted through the computer systems of the Company's customers. Addressing problems associated with such actual or alleged failures could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. Although the Company's license agreements contain provisions designed to limit its exposure as a result of such actual or alleged software failures or such security problems, such provisions may not be effective under applicable law. A successful claim could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. In addition, defending such a claim, regardless of its merits, or otherwise satisfying affected customers could entail substantial expense and require the time and attention of key management personnel.

#### *Substantial Control by Major Shareholders*

As of April 15, 1999, the beneficial holdings of SAP's three principal shareholders (the "Principal Shareholders"), the holdings of certain of their respective immediate family members and the holdings of entities controlled by certain of the Principal Shareholders (the "Related Entities"), constituted in the aggregate 63.931% of the outstanding Ordinary Shares. The Principal Shareholders disclaim beneficial ownership with respect to Ordinary Shares owned by immediate family members. The Principal Shareholders, an immediate family member of one of the Principal Shareholders and the Related Entities have informed the Company that they are parties to the Pooling Agreement, pursuant to which they have agreed to vote 50.0002% of the outstanding Ordinary Shares as a block, thereby enabling them, among other things, to elect 50% of the members of the Supervisory Board (representing 100% of the members that are elected by shareholders rather than employees). The Principal Shareholders, their respective immediate families and the Related Entities will retain the voting power to approve most matters requiring approval by the shareholders of the Company, including approving the amount of dividends to be paid on the Ordinary Shares and the Preference Shares and approval of certain mergers and other significant corporate transactions, such as a sale of substantially all of the Company's assets. The Pooling Agreement also contains certain restrictions on transfer, and may have the effect of delaying or preventing a change in control of the Company. See "Item 4. Control of Registrant."

#### *Volatility of Stock Price*

The Company participates in a dynamic industry that is intensely competitive and the trading prices of the ADSs and the Preference Shares have experienced and may continue to experience significant volatility. The current trading price of the ADSs and the Preference Shares reflects certain expectations about the future performance and growth of the Company. There can be no assurance that the Company will be able to meet those expectations. In addition, the Company's revenues can vary, sometimes substantially, from quarter to quarter, causing significant variations in operating results during certain quarters. The Company has generally realized lower revenues from license fees in the first quarter of the year than in the fourth quarter of the previous year. See "— Variability of Quarterly Operating Results."

Accordingly, the Company's future earnings and stock price may be subject to significant volatility, particularly on a quarterly basis. Any shortfall in revenue or earnings from annual levels projected by the

Company or other projections made by securities analysts could have an immediate and significant adverse effect on the trading price of the ADSs or the Preference Shares in any given period. Additionally, the Company may not be able to confirm any such shortfalls until late in the quarter or following the end of the quarter because license agreements are often executed late in a quarter. Finally, the stock prices for many companies in the technology and emerging growth sector have experienced wide fluctuations, which have often been unrelated to individual company operating performance. The trading price of the ADSs or the Preference Shares may fluctuate in response to the announcement of new products or product enhancements by the Company or its competitors, technological innovation by the Company or its competitors, quarterly variations in the Company's or its competitors' results of operations, changes in revenue and revenue growth rates on a consolidated basis or for specific geographic areas, business units, products or product categories, speculation in the press or analyst community and general market conditions specific to particular industries. Such fluctuations may adversely affect the market price of the ADSs or the Preference Shares.

The ADSs and the Preference Shares have experienced extreme price fluctuation. There can be no assurance that the trading price of the Preference Shares or the ADSs will not continue to fluctuate widely in response to variations in operating results, announcements of technological innovations or new products by the Company or its competitors, as well as other factors (including those described above). In the past, companies that have experienced volatility in the market price of their stock have been the object of securities class action litigation. Any such securities class action litigation against the Company, with or without merit, could result in substantial costs and the diversion of management's attention and resources.

#### *Shares Available for Future Sale*

The Principal Shareholders, their respective immediate families and the Related Entities own beneficially a majority of the outstanding Ordinary Shares. The Principal Shareholders disclaim beneficial ownership with respect to Ordinary Shares owned by immediate family members. The sale of a large number of Ordinary Shares by any of such shareholders could have a negative effect on the trading price of the ADSs or the Preference Shares. Except for certain transfer restrictions and rights of first refusal contained in the Pooling Agreement, SAP is not aware of any restrictions on the transferability of the shares owned by the Principal Shareholders, any of their immediate family members or any Related Entity.

In 1994, the Company sponsored the 1994 Program under which (i) the 1994 Bonds were issued to German employees and (ii) the Rights were issued to non-German employees, which Rights relate to the non-par Preference Shares underlying 1994 Bonds issued to a special purpose vehicle. See "Item 12. Options to Purchase Securities from Registrant or Subsidiaries — 1994 Bonds." Upon the exercise of a Right, the special purpose vehicle converts the 1994 Bonds into Preference Shares, and the Preference Shares are promptly sold on the open market in order to obtain cash to pay the value of the exercised Right. The 1994 Bonds are convertible and the Rights are exercisable, in each case, on each June 30, July 31, August 31, September 30, October 31 and November 30, until June 30, 2004. Under the 1994 Program, DM 20 million in 1994 Bonds were issued, and, at December 31, 1998, 17.1% of the 1994 Bonds remained outstanding and 685,501 Preference Shares would be issued upon the conversion thereof.

#### *Currency Exchange Rate Fluctuations Effects*

A significant portion of the Company's business is conducted in currencies other than the euro and the Mark. Of the Company's consolidated revenues in 1998 and 1997, approximately 82% and 81%, respectively, were attributable to non-German operations and translated into Marks. As a consequence, period-to-period changes in the average exchange rate in a particular currency can significantly affect reported revenues and operating results. In general, appreciation of the euro and the Mark relative to another currency has a negative effect on reported consolidated revenues, results from ordinary operations and net income, while depreciation of the euro and the Mark has a positive effect. Most of SAP's subsidiaries have entered into licensing agreements with SAP, pursuant to which the subsidiaries are required to pay SAP a royalty equivalent to a percentage of the product fees paid to them by their customers in the currency of such fees within 90 days following the end of the month in which the subsidiary recognizes the revenue. These inter-company royalties payable to SAP are generally denominated in the respective subsidiary's local currency in order to centralize

the foreign currency risks with SAP in Germany. The delay between the date when the subsidiary records product revenue and the date when payment is made to SAP by such subsidiary exposes the Company to the risk of loss due to currency fluctuation.

Because a significant portion of the Company's revenues is from countries other than Germany and denominated in currencies other than the euro and the Mark, the Company has significant exposure to the risk of currency fluctuations, especially to fluctuations in the value of the Dollar, Japanese Yen, the Swiss Franc, the British Pound Sterling, the Brazilian Real, the Canadian Dollar and the Australian Dollar. Conversely, increases in the value of the Dollar or other currencies, relative to the euro and the Mark may positively affect earnings, although such positive effects may be only short-term in nature.

The Company continually monitors its exposure to currency risk and pursues a Company-wide foreign exchange risk management policy and may hedge such risks with certain financial instruments. However, such hedging may not necessarily be wholly effective since the Company's full-year earnings as of each December 31 are adjusted by reference to exchange rates in effect as of that date. There can be no assurance, therefore, that exchange rate fluctuations will not have a material adverse effect upon the Company's financial condition or results of operations. See "— Exchange Rate Exposure."

The currency in which the Preference Shares are traded is the euro. While the currency in which the ADSs are traded is Dollars, the trading price of the ADSs is expected to be largely based upon the trading price of the underlying Preference Shares in its principal trading market in the Frankfurt Stock Exchange. Therefore, currency fluctuations between the Dollar and the euro may have an adverse effect upon the value of the ADSs. Cash dividends payable to holders of ADSs will be paid to the Depositary in euros and, subject to certain exceptions, will be converted by the Depositary into Dollars for payment to such holders. The amount of dividends received by the holders of ADSs, therefore, will also be affected by fluctuations in exchange rates as well as by the specific exchange rate used by the Depositary (which may incorporate fees charged thereby).

#### *Risks Associated with International Operations*

The Company's products and services are currently marketed in over 100 countries, with the EMEA and the Americas regions being the Company's principal markets. In 1998, revenues derived from outside Germany totaled DM 6,900.2 million, representing approximately 82% of the Company's total revenues. Sales in the Company's principal markets are subject to risks inherent in international business activities, including, in particular, general economic conditions in each country, overlap of differing tax structures, management of an organization spread over various jurisdictions, unexpected changes in regulatory requirements, exchange rate fluctuations and compliance with a variety of foreign laws and regulations. Other general risks associated with international operations include import and export licensing requirements, trade restrictions, changes in tariff and freight rates, and travel and communication costs.

In order to support the growth of the Company's business in international markets, the Company expects to continue to incur significant costs to build infrastructure ahead of anticipated revenues. As a result of this expansion, the Company must continue to implement and improve its operational and financial control systems and to expand, train and manage its employee base and relationships with third-party implementation providers. These factors have placed, and are expected to continue to place, a significant strain on the Company's management and operations. There can be no assurance that the Company's international operations will continue to be successful or that the Company will be able to manage effectively the increased level of operations. The inability to manage these activities effectively could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

#### *Possible Adverse Impact of Adoption of U.S. GAAP*

Effective for fiscal year 1999 and thereafter, the consolidated financial statements of the Company will be prepared exclusively in compliance with U.S. GAAP. Under U.S. GAAP, the Company will recognize revenue in accordance with the American Institute of Certified Public Accountants Statement of Position 97-2, "Software Revenue Recognition" ("SOP 97-2"). The application of SOP 97-2 may require the Company to defer recognition of license revenues for a significant period of time after entering into a license

agreement. Factors which may require such a deferral include: (i) whether the license agreement relates to then currently undeliverable software products; (ii) whether enterprise transactions include both software products that are then currently deliverable and software products that are still under development or other undeliverable elements; (iii) whether the Company is obligated to provide services that include significant modifications, customizations or complex interfaces; (iv) whether the license agreement includes phased maintenance rates or non-standard prices for maintenance and/or services; (v) whether the license agreement includes non-standard acceptance criteria that may preclude revenue recognition prior to customer acceptances; and (vi) whether the license agreement includes fees with extended payment terms or fees that depend upon acceptance of services or other contingencies. Because of the factors listed above and other specific requirements under published U.S. GAAP standards for software revenue recognition, the Company must have very precise terms in its license agreements in order to recognize revenue when it initially delivers software. From time to time, the Company must negotiate and revise certain of its standard terms and conditions and, in certain cases, the Company may not obtain terms and conditions that permit recognition of all fees payable by the customer as revenue at the time of delivery or even as work on the project is completed.

Generally, amounts deferred in one period are partially or fully offset by the recognition of amounts deferred in previous periods. Accordingly, changes in current product revenues, the amounts deferred from such revenues and the timing and amounts of revenue recognized for previous deferrals may significantly impact the Company's financial condition and results of operations. In addition, due to the seasonality of the Company's business (see "— Variability of Quarterly Operating Results"), the effect of applying SOP 97-2 may have a material positive or negative impact on the Company's financial condition and results of operations for individual quarters.

The effects of SOP 97-2 have required and may continue to require the Company to significantly change its business practices in order to recognize a greater portion of its product revenue upon delivery. Such changes may extend sales cycles, increase administrative costs and efforts, impact product sales and otherwise adversely affect the Company's business, financial condition, results of operations or cash flows.

#### *Enforceability of U.S. Judgments*

SAP is a stock corporation (*Aktiengesellschaft*) organized under the laws of Germany. All members of SAP's Supervisory Board (*Aufsichtsrat*) and Executive Board (*Vorstand*) are non-residents of the United States. A substantial portion of the assets of such persons and the Company are located outside the United States. As a result, it may not be possible to effect service of process within the United States upon such persons or the Company or to enforce against them judgments obtained in U.S. courts predicated upon the civil liability provisions of the securities laws of the United States. In addition, awards of punitive damages in actions brought in the United States or elsewhere may be unenforceable in Germany.

#### **Item 9A. *Quantitative and Qualitative Disclosure About Market Risk.***

To ensure the adequacy and effectiveness of the Company's foreign exchange hedge positions, and to monitor the risks and opportunities of its non-hedge portfolios, the Company continually monitors its foreign forward and option positions. In addition, the Company monitors its interest rate swap positions, if any, both on a stand-alone basis and in conjunction with its underlying foreign currency and interest rate exposures, from an economic and an accounting perspective. However, there can be no assurance that the programs described below with respect to the management of currency exchange and interest rate risk will offset more than a portion of the adverse financial impact resulting from unfavorable movements in either the foreign exchange rates or interest rates.

#### **Foreign Currency Risk**

Most of SAP's subsidiaries have entered into license agreements with SAP pursuant to which the subsidiary has acquired the right to sublicense SAP Software Products to customers within a specific territory. Under these license agreements, the subsidiaries generally are required to pay SAP a royalty equivalent to a percentage of the product fees paid to them by their customers within 90 days following the end of the month

in which the subsidiary recognizes the revenue. These inter-company royalties payable to SAP are generally denominated in the respective subsidiary's local currency in order to centralize foreign currency risk with SAP in Germany. The delay between the date when the subsidiary records product revenue and the date when payment is made to SAP by such subsidiary exposes the Company to foreign exchange risk. See "Item 9. Management's Discussion and Analysis of Financial Condition and Results of Operations — Exchange Rate Exposure."

The Company enters into foreign exchange forward contracts and currency options to protect the existing and/or expected foreign currency inter-company claims and liabilities. Specifically, these foreign exchange contracts offset existing and anticipated inter-company receivables in the countries with significant operations, including the United States, Japan, the United Kingdom, Switzerland and Canada. Historically, anticipated receivables represented expected inter-company amounts resulting from revenues generated within the next 12 months from the purchase date of the derivative instrument. Management believes the use of foreign currency derivative financial instruments reduces the risks that arise from doing business in international markets and holds such instruments for purposes other than trading. Generally, the maturities of such derivative instruments do not exceed 12 months from the date of purchase.

The table below provides information about the Company's derivative financial instruments that are sensitive to foreign currency exchange rates, including foreign exchange forward contracts. The table presents fair values, notional amounts (at the contract exchange rates) and the respective weighted average contractual foreign currency exchange rates. The fair values do not reflect any foreign exchange gains or losses on the underlying inter-company receivables and payables. In addition, the table below does not include foreign currency risks associated with third-party receivables and payables denominated in currencies other than the functional currency of the reporting subsidiary. See notes to the consolidated financial statements included in "Item 18. Financial Statements" for further information on the Company's foreign exchange derivative instruments.

<u>Foreign Currency Risk (Value in DM (000))</u>	<u>DM Functional Currency</u>	
	<u>Contract Notional Amounts</u>	<u>Fair Value December 31, 1998<sup>(1)</sup></u>
	<u>Expected Maturity Date 1999</u>	
<b>Derivatives used to manage balance sheet transactions</b>		
<b>Foreign Currency Forward Contracts</b>		
<b>(Receive DMs, Sell Local Currency)</b>		
U.S. Dollars . . . . .	200,120	0
Weighted Average Contractual Exchange Rate . . . . .	1.67	
British Pounds . . . . .	40,534	29
Weighted Average Contractual Exchange Rate . . . . .	2.80	
Canadian Dollars . . . . .	14,053	52
Weighted Average Contractual Exchange Rate . . . . .	1.08	
Swiss Franc . . . . .	6,625	32
Weighted Average Contractual Exchange Rate . . . . .	1.23	
Australian Dollars . . . . .	6,157	19
Weighted Average Contractual Exchange Rate . . . . .	1.03	

Foreign Currency Risk (Value in DM (000))	DM Functional Currency	
	Contract	Fair Value
	Notional Amounts	December 31, 1998 <sup>(1)</sup>
	Expected Maturity Date	
	1999	
<b>Derivatives used to manage anticipated transactions</b>		
<b>Foreign Currency Forward Contracts</b>		
(Receive DMs, Sell Local Currency)		
U.S. Dollars . . . . .	169,396	(217)
Weighted Average Contractual Exchange Rate . . . . .	1.68	
Japanese Yen . . . . .	116,640	600
Weighted Average Contractual Exchange Rate . . . . .	1.45	
British Pounds . . . . .	49,066	35
Weighted Average Contractual Exchange Rate . . . . .	2.82	
Swiss Francs . . . . .	11,794	57
Weighted Average Contractual Exchange Rate . . . . .	1.22	

(1) Equivalent to the unrealized gain/(loss) on existing contracts.

### Interest Rate Risk

The Company invests its cash primarily in bank time deposits and fixed and variable rate marketable debt securities denominated in Marks. See “Item 9. Management’s Discussion and Analysis of Financial Condition and Results of Operations — Interest Rate Exposure.” The Company does not expect changes in the quoted market prices of time deposits to have a material effect on results of operations or cash flows. The Company has in the past entered into, and in the future may enter into, interest rate swaps to better manage the interest income on its cash equivalents and marketable securities and to partially mitigate the impact of German interest rate fluctuations on these investments. The Company holds such derivative instruments for purposes other than trading. No swaps were outstanding at December 31, 1998.

The table below presents principal (or notional) amounts (in thousands of DM unless otherwise indicated), respective fair values at December 31, 1998 and related weighted average interest rates by year of maturity for the Company’s investment portfolio.

	Expected Maturity Date						Total	Fair Value December 31, 1998
	1999	2000	2001	2002	2003	Thereafter		
<b>Long-term investments (DM)</b>								
Fixed rate . . . . .	5,778	—	—	—	—	101,146	106,924	114,774
Average interest rate . . . . .	4.5%					6.12%		
Total investments . . . . .	<u>5,778</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>101,146</u>	<u>106,924</u>	<u>114,774</u>

### Item 10. Directors and Officers of Registrant.

#### General

In accordance with the German Stock Corporation Act (*Aktiengesetz*), SAP has a Supervisory Board (*Aufsichtsrat*) and an Executive Board (*Vorstand*). The two Boards are separate, and no individual may serve simultaneously as a member of both Boards.

The Executive Board is responsible for managing the day-to-day business of SAP in accordance with the German Stock Corporation Act and the Articles of Association. The Executive Board is authorized to represent SAP and to enter into binding agreements with third parties on behalf of SAP. The principal function of the Supervisory Board is to supervise the Executive Board. It is also responsible for appointing and removing the members of the Executive Board and representing the Company in connection with transactions between an Executive Board member and the Company. The Supervisory Board may not make management

decisions, but may determine that certain types of transactions require its prior consent. In carrying out their duties, the members of the Supervisory Board and the Executive Board must exercise the standard of care of a diligent and prudent business person. In complying with such standard of care, the members must take into account a broad range of considerations, including the interests of SAP and its shareholders, employees and creditors. In addition, the members of the Executive Board and the Supervisory Board are personally liable for certain violations of the German Stock Corporation Act by SAP.

### **Supervisory Board (*Aufsichtsrat*)**

The Supervisory Board of SAP consists of 12 members, of which six members are elected by SAP's shareholders at a general shareholders' meeting and six members are elected by SAP's employees pursuant to the German Co-determination Act of 1976 (*Mitbestimmungsgesetz*). Any Supervisory Board member elected by the shareholders at the general shareholders' meeting may be removed by two-thirds of the votes cast at a general shareholders' meeting. Any Supervisory Board member elected by the employees may be removed by three-quarters of the votes cast by the employees.

The Supervisory Board chooses a Chairman and a Vice Chairman from among its members by a majority vote of its members. If such majority is not reached on the first vote, the Chairman will be chosen solely by the members elected by the shareholders, and the Vice Chairman will be chosen solely by the members elected by the employees. Unless otherwise provided for by law, the Supervisory Board acts by simple majority. In the case of any deadlock, the Chairman has the deciding vote.

The members of the Supervisory Board are each elected for the same fixed term of approximately five years. The term expires at the end of the annual general shareholders' meeting after the fourth fiscal year following the year in which the Supervisory Board was elected. Reelection is possible. The term of a member of the Supervisory Board appointed by a court to cure a deficiency in the composition of the Supervisory Board ends at the time when such deficiency is cured. The term of a member of the Supervisory Board elected by the shareholders to succeed a departing member ends at the time when the term of the original member would have ended. A substitute member of the Supervisory Board may be elected by the shareholders at the same time as a member to replace such member in case he or she departs. The term of a substitute member who replaces a departing member ends with the conclusion of the next general shareholders' meeting where members of the Supervisory Board are elected or, at the latest, at the time when the term of the original member would have ended. The remuneration of the members of the Supervisory Board is determined by the Articles of Association.

The Supervisory Board may appoint committees from among its members and may, to the extent permitted by law, vest committees with the authority to make decisions. Currently, three committees exist: the Audit Committee (*Bilanzprüfungsausschuss*), the Executive Committee (*Ausschuss für Vorstand-sangelegenheiten*) and the Mediation Committee (*Vermittlungsausschuss*).

The current members of the Supervisory Board of SAP, each such member's principal occupation, the year in which each was first elected and the year in which the term of each expires, respectively, are as follows.

<u>Name</u>	<u>Principal Occupation</u>	<u>Year First Elected</u>	<u>Year Term Expires</u>
Dietmar Hopp, Chairman <sup>(1)(2)</sup> . . . . .	Former Co-speaker of SAP's Executive Board	1998	2003
Dr. Wilhelm Haarmann <sup>(1)</sup> . . . . .	Attorney, Haarmann, Hemmelrath & Partner	1988	2003
Klaus-Dieter Laidig <sup>(1)</sup> . . . . .	Managing Partner, Laidig Business Consulting GmbH	1996	2003
Hartmut Mehdorn <sup>(1)</sup> . . . . .	Chairman of Executive Board, Heidelberger Druckmaschinen AG; Member of Executive Board, RWE AG and Lahmeyer AG	1998	2003
Dr. Dieter Spöri <sup>(1)</sup> . . . . .	Partner, Baumgartner & Partner Unternehmensberatung GmbH	1998	2003

<u>Name</u>	<u>Principal Occupation</u>	<u>Year First Elected</u>	<u>Year Term Expires</u>
Dr. h.c. Klaus Tschira <sup>(1)(3)</sup> . . . . .	Former Member of SAP's Executive Board	1998	2003
Helga Classen, Vice Chairman <sup>(4)</sup> . . . . .	Employee	1993	2003
Willi Burbach <sup>(4)</sup> . . . . .	Employee	1993	2003
Bernhard Koller <sup>(4)</sup> . . . . .	Employee	1989	2003
Dr. Gerhard Maier <sup>(4)</sup> . . . . .	Employee	1989	2003
Dr. Barbara Schennerlein <sup>(4)</sup> . . . . .	Employee	1998	2003
Alfred Simon <sup>(4)</sup> . . . . .	Employee	1993	2003

(1) Elected by SAP's shareholders on May 7, 1998.

(2) Mr. Hopp is a party to the Pooling Agreement. See "Item 4. Control of Registrant."

(3) Dr. Tschira is a party to the Pooling Agreement. See "Item 4. Control of Registrant."

(4) Elected by SAP's employees on April 3, 1998.

### **Executive Board (*Vorstand*)**

Pursuant to the Articles of Association, SAP's Executive Board must consist of at least two members. Any two members of the Executive Board or one member of the Executive Board and the holder of a procuration (a power of attorney) may legally represent SAP. Each member of the Executive Board is appointed by the Supervisory Board for a maximum term of five years and is eligible for reappointment thereafter. Under certain circumstances, such as a serious breach of duty or a vote of no confidence (*Vertrauensentzug*) by a majority of the holders at a general shareholders' meeting, a member of the Executive Board may be removed by the Supervisory Board prior to the expiration of such term. A member of the Executive Board may not vote on matters relating to certain contractual agreements between such member and the Company and may be liable to SAP if such member has a material interest in any contractual agreement between the Company and a third party which was not disclosed to, and approved by, the Supervisory Board.

The current members of the Executive Board, the year in which each such member was first appointed and the year in which the term of each expires, respectively, are as follows.

<u>Name</u>	<u>Year First Appointed<sup>(1)</sup></u>	<u>Year Current Term Expires</u>
Prof. Dr. h.c. Hasso Plattner, Co-speaker . . . . .	1988	2002
Prof. Dr. Henning Kagermann, Co-speaker . . . . .	1991	2002
Dr. Peter Zencke . . . . .	1993	2002
Dr. Claus Heinrich . . . . .	1996	2000
Gerhard Oswald . . . . .	1996	2000

(1) SAP became a stock corporation (*Aktiengesellschaft*) with an Executive Board in 1988.

The current members of the Executive Board and a description of their management responsibilities and backgrounds are as follows.

*Prof. Dr. h.c. Hasso Plattner*, Co-speaker, 55 years old, engineering graduate. Prof. Dr. h.c. Plattner is one of the founders of SAP. He became Vice Chairman of the Executive Board in 1988 and Co-speaker in 1997. He is responsible for basis development, technology and Industry Specific Products development, marketing, corporate communications and the Americas region.

*Prof. Dr. Henning Kagermann*, Co-speaker, 51 years old, mathematics and physics graduate. Prof. Dr. Kagermann joined SAP in 1982. He became a member of the Executive Board in 1991 and Co-speaker in 1998. He is responsible for financial development and accounting applications, several Industry Specific

Products, international business development and human resources development. He also oversees finance and administration and the management of the EMEA region.

*Dr. Peter Zencke*, 48 years old, mathematics and economics graduate. Dr. Zencke joined SAP in 1984 and became a member of the Executive Board in 1993. He is responsible for the R/3 System's logistic applications, development and implementation tools and several Industry Specific Products. He also oversees the Company's operations in the Asia-Pacific region.

*Dr. Claus Heinrich*, 43 years old, business management and operations research graduate. Dr. Heinrich joined SAP in 1987. He is responsible for the R/3 System logistics applications as well as several Industry Specific Products and human resources development. Dr. Heinrich has been involved in logistics development for SAP since 1987.

*Gerhard Oswald*, 45 years old, economics graduate. Mr. Oswald joined SAP in 1981. Mr. Oswald is responsible for R/3 System corporate services and the internal IT infrastructure.

Effective September 3, 1998, Paul Wahl resigned from the Executive Board. No replacement was appointed.

#### **Item 11. *Compensation of Directors and Officers.***

The total remuneration of all members of the Supervisory Board for the year 1998 amounted to DM 1,096,200. In addition to reimbursement of out-of-pocket expenses, members of the Supervisory Board receive an annual fixed payment, which amounts to EUR 10,226 for the Chairman, EUR 7,669 for the Vice Chairman and EUR 5,113 for all other members of the Supervisory Board, plus a variable payment that depends on the dividends based on capital stock paid to SAP's shareholders, *i.e.*, EUR 1,790 for each percentage of SAP's share capital represented by such dividends. Notwithstanding the foregoing, the Chairman, the Vice Chairman and the other members of the Supervisory Board will not receive annual remuneration in excess of EUR 71,581, EUR 53,686 and EUR 35,790, respectively. The total remuneration of all members of the Executive Board for the year 1998 amounted to DM 7,988,000.

#### **Item 12. *Options to Purchase Securities from Registrant or Subsidiaries.***

##### **1988 Bonds**

In 1988, the Company sponsored an employee convertible bond program to provide an opportunity for its employees to participate in the appreciation in the value of the Ordinary Shares and Preference Shares by issuing 20,000 bonds, each with a nominal amount of DM 50 (the "1988 Bonds") in the aggregate nominal amount of DM 1 million to its employees. Each 1988 Bond accrues interest at a floating rate and is convertible into four Ordinary Shares and one Preference Share. The conversion rights of the holders of 1988 Bonds expired on October 20, 1998. See notes 25 and 30 to the Company's consolidated financial statements included herein.

##### **1994 Bonds**

In 1994, the Company sponsored an employee convertible bond program (the "1994 Program") to provide an opportunity for its worldwide employees to participate in the appreciation of the value of the Preference Shares by issuing 400,000 bonds, each with a nominal amount of DM 50 and convertible into DM 50 Preference Shares (the "1994 DM 50 Bonds") in the aggregate nominal amount of DM 20 million. On July 17, 1995, SAP effected a 1:10 stock split with respect to 1,950,000 DM 50 Preference Shares to reflect the reduction in the nominal value of such DM 50 Preference Shares from DM 50 to DM 5. The 1994 DM 50 Bonds were split accordingly into 4,000,000 bonds, each with a nominal amount of DM 5 (the "1994 Bonds"). Each 1994 Bond accrues interest at the rate of 6% per annum and is convertible into one Preference Share at the conversion price of DM 100. Under the 1994 Program, the Company issued 1994 Bonds in the aggregate nominal amount of approximately DM 11.4 million (the "German 1994 Bonds") to Volksbank Wiesloch eG, which holds such German 1994 Bonds as a trustee for the Company's German employees participating in the 1994 Program. The conversion rights with respect to the German 1994 Bonds became

exercisable for the first time on September 30, 1996 and may be exercised thereafter on each June 30, July 31, August 31, September 30, October 31, and November 30, until June 30, 2004. In respect of the Company's non-German employees participating in the 1994 Program, the Company issued 1994 Bonds in the aggregate amount of approximately DM 8.6 million (the "Non-German 1994 Bonds") to Volksbank Wiesloch eG, which acts as trustee for a special purpose vehicle (the "Administrator"), whereupon the Administrator issued to such employees participation rights (the "Rights") related to the Preference Shares into which the Non-German 1994 Bonds are convertible. Upon an employee's exercise of his or her Rights, an appropriate number of Non-German 1994 Bonds would be converted into Preference Shares and those Preference Shares promptly sold on the open market in order to obtain cash to pay the value of the exercised Right. The Rights became exercisable for the first time on September 30, 1996 and may be exercised thereafter on each June 30, July 31, August 31, September 30, October 31 and November 30, until June 30, 2004. The cash payout price approximates the market price of the Preference Shares sold, less DM 100 per Preference Share and certain other costs. At December 31, 1998, 17.1% of the 1994 Bonds remained outstanding, and 685,501 Preference Shares would be issued upon the conversion thereof. See notes 25 and 30 to the Company's consolidated financial statements included herein.

### **STAR Plan**

The STAR Plan provides for the grant of SARs to Executive Board members and eligible executives and employees of SAP and its wholly-owned subsidiaries. The STAR Plan is administered by SAP's Executive Board with respect to eligible employees and by the Supervisory Board with respect to Executive Board members. The Executive Board or the Supervisory Board, as applicable, has the authority to determine: (i) the persons to whom grants may be made under the STAR Plan, provided that, except for the 1998 SARs, they have been employed by the Company for two years as of the date of grant; (ii) the size and other terms and conditions of each grant; (iii) the time when the grants will be made and the duration of any applicable exercise or restriction period, including the criteria for vesting and the acceleration of vesting; and (iv) any other matters arising under the STAR Plan. Any amounts accrued under the STAR Plan are recorded as compensation expense in the Company's consolidated income statements and may negatively impact the Company's results of operations, net income and cash flows.

On May 1, 1998, the Executive Board granted the 1.1 million SARs comprising the 1998 SARs to employees who were employed by the Company on or prior to June 30, 1996. The Supervisory Board determined the allocation of the 1998 SARs to the Executive Board. The 1998 SARs entitled the eligible employee to receive a portion of the appreciation in the price of Preference Shares during the measurement period that began when the grant price was set and ended when the end price was set. The grant price was DM 785 (which was the average closing price of a Preference Share over the 10 business days beginning on March 26, 1998 and ending on April 8, 1998). The end price was approximately DM 659 (EUR 337) (which was the average closing price of a Preference Share over the 10 calendar days beginning with the announcement on April 21, 1999 of the Company's 1999 first quarter earnings and ending on April 30, 1999). Accordingly, no payments were made with respect to the 1998 SARs. In 1998, the Company accrued reserves of DM 47.5 million with respect to the 1998 SARs. Because of the decline in the price of the Preference Shares subsequent to December 31, 1998, these accrued amounts (as adjusted for U.S. GAAP) were reversed during the first quarter of 1999.

In May 1999, the Executive Board granted approximately 1.5 million SARs to: (i) employees who were employed by the Company on or prior to January 1, 1997 (the "1999 Employee SARs"); and (ii) certain executives who were employed by the Company on or prior to January 1, 1997 (the "1999 Executive SARs"). The Supervisory Board determined the allocation of the 1999 Executive SAR grants to the Executive Board. An additional 100,000 1999 SARs were authorized as a reserve to be issued in connection with the 1999 SAR grants. The 1999 SARs will entitle the eligible participants to receive the appreciation in the price of Preference Shares during the measuring period that began when the grant price was set and ends when the end price is set. The grant price of the 1999 SARs was EUR 337 (which was the average closing price of a Preference Share over the 10 calendar days beginning with the announcement on April 21, 1999 of the Company's 1999 first quarter earnings and ending on April 30, 1999). The end price for the 1999 Employee

SARs will be the average closing price of a Preference Share over the 20 business days immediately following the date of the announcement of SAP's preliminary 1999 full year earnings in January 2000. The end price for the 1999 Executive SARs will be the average closing price of a Preference Share over the 20 business days immediately following the announcement of SAP's preliminary: (i) 1999 full-year earnings, with respect to the initial one-third of the grant; (ii) 2000 full-year earnings, with respect to the second one-third of the grant; and (iii) 2001 full-year earnings, with respect to the final one-third of the grant. Participants in the 1999 Executive SARs will have the option to delay the valuation of the end price with respect to the initial or second third of their awards until a subsequent end price determination date. For each 1999 SAR awarded, the eligible participants will be entitled to receive cash equal to 100% of the increase in the price of the Preference Shares above the grant price at the end of the measurement period. Payments, if any, with respect to the 1999 Employee SARs will be made in three equal installments in July 2000, January 2001 and July 2001, provided that (subject to certain exceptions) the participating employee continues to be actively employed on such dates. Payments, if any, with respect to the 1999 Executive SARs will be made in July 2000, July 2001 and July 2002, provided that (subject to certain exceptions) the participating executive continues to be actively employed on such dates.

### **German Employee Stock Purchase Plans**

SAP maintains two employee stock purchase plans for its German employees: (i) an ongoing payroll deduction plan (the "German Payroll Deduction Plan"); and (ii) an annual purchase plan (the "German Annual Plan"). Under the German Payroll Deduction Plan, an eligible German employee is able to purchase Ordinary Shares or Preference Shares through payroll deductions of up to 10% of the gross monthly salary of the employee and Company contributions of 15% of the Ordinary Share or Preference Share purchase price as well as the assumption of ancillary purchase expenses. As soon as the amount available for an employee is sufficient together with the Company contribution to purchase a Preference Share or an Ordinary Share, such purchase is effected at the market price and credited to the employee's account. The acquired shares are not subject to a holding period. Under the German Annual Plan, eligible German employees may buy a determined number of Preference Shares per year on a set date from the Company's shareholding, with a Company contribution and the participating employee's contribution, which for 1998 amounted to DM 500 (as well as the assumption of ancillary purchase expenses) and DM 249.30, respectively. The acquired shares are transferred to a special account of the participating employee, where they are subject to a holding period of six years. Employees must elect each year to participate in the German Annual Plan.

### **U.S. Employee Stock Purchase Plans**

The Company maintains two employee stock purchase plans for its U.S. employees: (i) an Employee Discount Stock Purchase Plan ("U.S. Discount Plan"); and (ii) an employee non-discount purchase plan (the "U.S. Non-discount Plan"). Under the U.S. Discount Plan, eligible employees are able to purchase ADSs through payroll deductions of up to 10% of their annual compensation or \$21,250, whichever is less, and Company contributions of 15% of the ADSs' purchase price as well as the assumption of ancillary purchase expenses. Under the U.S. Non-discount Plan, an administrator makes open market purchases of ADSs for the accounts of participating employees on a semi-monthly basis. Such purchases are made out of amounts deducted from each participating employee's salary. The Company does not make any contributions in connection with the U.S. Non-discount Plan.

### **Other Foreign Stock Purchase Plans**

Although the Company maintains and is in the process of introducing various employee stock purchase plans similar to its German and U.S. plans in the majority of its remaining foreign subsidiaries, the combined impact of these plans on the Company's results of operations, net income and cash flows is not material.

### **Item 13. *Interest of Management in Certain Transactions.***

For the years ended December 31, 1997 and 1996, certain members of SAP's Executive Board had interest-free loans outstanding from the Company in the amount of DM 8,500 and DM 274,000, respectively.

No such interest-free loans were outstanding for the year ended December 31, 1998. In addition, for the year ended December 31, 1996, certain members of the Executive Board had loans bearing interest at 6% per annum outstanding from the Company in the amount of DM 75,000. No such loans bearing interest at 6% per annum were outstanding for the years ended December 31, 1998 and 1997. A pension accrual has been made for former Executive Board members for the years ended December 31, 1998, 1997 and 1996 in the amount of DM 2,240,000, DM 1,503,747, and DM 1,444,227, respectively.

In the third quarter of 1997, the Company acquired a 25.2% interest in IDS from IDS's existing shareholders and directly from IDS pursuant to a capital increase. The principal shareholder of IDS is Prof. Dr. August Wilhelm Scheer, who was a member of SAP's Supervisory Board at the time of such acquisition. In May 1999, IDS made an initial public offering and listed on the Neuer Markt segment of the Frankfurt Stock Exchange. The Company sold 400,000 ordinary shares in IDS in the initial public offering and, in the event the underwriters' over-allotment option is fully exercised, will sell an additional 240,000 ordinary shares. The Company currently owns 6,000,000 ordinary shares, representing approximately 18.9% of the outstanding ordinary shares. If the over-allotment option is exercised in full, the Company will own 5,760,000 ordinary shares, representing approximately 18.1% of the outstanding ordinary shares. Dr. Henning Kagermann, Co-speaker of SAP's Executive Board, serves on the supervisory board of IDS. The Company is a party to certain development and reseller agreements with IDS and believes that the terms of each such agreement are on terms no less favorable to the Company than are included in similar agreements with unaffiliated third parties.

In October 1998, iXOS Software Aktiengesellschaft ("iXOS") made an initial public offering and listed on the Neuer Markt segment of the Frankfurt Stock Exchange and the Nasdaq National Market. In May 1999, the Company sold 110,000 ordinary shares in iXOS in a secondary offering. The Company currently owns 200,800 ordinary shares in iXOS, representing approximately 5.3% of the outstanding ordinary shares. Dr. Wilhelm Haarman, a member of SAP's Supervisory Board, and Dr. Peter Zencke, a member of its Executive Board, serve as members of iXOS's Supervisory Board. The Company is a party to certain licensing, reseller, service and development agreements with iXOS and believes that the terms of each such agreement are on terms no less favorable to the Company than are included in similar agreements with unaffiliated third parties.

In May 1999, SVC AG Schmidt Vogel Consulting, Bielefeld ("SVC"), made an initial public offering and listed on the Neuer Markt segment of the Frankfurt Stock Exchange. The Company sold 191,734 ordinary shares in SVC in the initial public offering and, in the event the underwriters' over-allotment option is fully exercised, will sell an additional 255,646 ordinary shares. The Company currently owns 1,837,583 ordinary shares, representing approximately 18.0% of the outstanding ordinary shares. If the over-allotment option is exercised in full, the Company will own 1,581,937 ordinary shares, representing 15.5% of the outstanding ordinary shares. Dr. Claus Heinrich, a member of SAP's executive board, serves as a member of SVC's supervisory board. The Company is a party to certain reseller agreements with SVC and believes that the terms of each such agreement are on terms no less favorable to the Company than are included in similar agreements with unaffiliated third parties.

In October 1997, the Company entered into a consulting agreement with a company controlled by Klaus-Dieter Laidig, a member of SAP's Supervisory Board. In December 1997, the Company entered into a software license agreement and in March 1998 a software service agreement with Golfplatz St. Leon-Rot GmbH & Co. Beteiligungs KG, a company controlled by Dietmar Hopp, who is chairman of SAP's Supervisory Board. In February 1998, the Company entered into a Test and Evaluation Agreement with Fancourt Hotel and Country Club Estate, South Africa, a company indirectly controlled by Prof. Dr. h.c. Hasso Plattner, who is Co-Speaker of SAP's Executive Board. The Company is a party to a number of software license, advisory and service agreements with Heidelberger Druckmaschinen AG, RWE AG and Lahmeyer AG; Hartmut Mehdorn, a member of SAP's Supervisory Board, is chairman of the executive board of Heidelberger Druckmaschinen AG and is a member of the executive board of RWE AG and Lahmeyer AG. The Company believes that the terms of each of the agreements described above are on terms no less favorable to the Company than are included in similar agreements with unaffiliated third parties.

Dr. Wilhelm Haarmann, a member of SAP's Supervisory Board, is a partner in Haarmann Hemmelrath & Partner, which serves as special German tax counsel to the Company and counsels the Company with regard to other legal matters.

## PART II

### Item 14. *Description of Securities to be Registered.*

Not Applicable

## PART III

### Item 15. *Defaults Upon Senior Securities.*

None.

### Item 16. *Changes in Securities, Changes in Security for Registered Securities and Use of Proceeds.*

None.

## PART IV

### Item 17. *Financial Statements.*

The Company has responded to Item 18 in lieu of responding to this item.

### Item 18. *Financial Statements.*

Reference is made to pages F-1 through F-39, incorporated herein by reference, and Item 19.

### Item 19. *Financial Statements and Exhibits.*

(a) The following consolidated financial statements are filed as part of this Form 20-F:

Report of ARTHUR ANDERSEN Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft mbH.

Consolidated Income Statements for the years ended 1998, 1997 and 1996 (audited).

Consolidated Balance Sheets as of December 31, 1998 and 1997 (audited).

Consolidated Statements of Cash Flows for the years ended December 31, 1998, 1997 and 1996 (audited).

Consolidated Statements of Changes Shareholders' in Equity for the years ended December 31, 1998, 1997 and 1996 (audited).

Notes to the Consolidated Financial Statements.

Schedule for the years ended December 31, 1998, 1997 and 1996:

Schedule II—Valuation and Qualifying Accounts and Reserves.

(b) The following documents are filed as exhibits to this Form 20-F:

3.1 Articles of Association (*Satzung*), as amended to date (English translation).\*

10.1 Pooling Agreement, dated November 30, 1996, among Dietmar Hopp, Oliver Hopp, Dietmar Hopp Stiftung GmbH, Dr. Hasso Plattner, Dr. Klaus Tschira and Klaus Tschira Stiftung gGmbH (English translation).\*\*

10.2 Supplement to Pooling Agreement, effective as of October 12, 1998 (English translation).\*

10.3 Amendment to Pooling Agreement, effective as of December 7, 1998 (English translation).\*

23.1 Consent of ARTHUR ANDERSEN Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft mbH.\*

\* Filed herewith.

\*\* Incorporated by reference to Registration Statement on Form F-1 of SAP (Registration No. 333-57383), filed on June 22, 1998.

## SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the Registrant certifies that it meets all of the requirements for filing this Registration Statement on Form 20-F and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized.

SAP AKTIENGESELLSCHAFT SYSTEME,  
ANWENDUNGEN, PRODUKTE IN DER  
DATENVERARBEITUNG  
(Registrant)

By: /s/ PROF. DR. HENNING KAGERMANN

Name: Prof. Dr. Henning Kagermann

Title: Member of the Executive Board

Dated: May 18, 1999

By: /s/ DIETER MATHEIS

Name: Dieter Matheis

Title: Principal Financial Officer

**SAP AKTIENGESELLSCHAFT AND SUBSIDIARIES**  
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## REPORT OF INDEPENDENT ACCOUNTANTS

We have audited the accompanying consolidated balance sheets of SAP Aktiengesellschaft Systeme, Anwendungen, Produkte in der Datenverarbeitung and subsidiaries as of December 31, 1998 and 1997, and the related consolidated statements of income, cash flows, and changes in shareholders' equity for each of the three years in the period ended December 31, 1998. 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 generally accepted auditing standards in Germany which, as applied by us, are substantially the same as those followed in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the 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, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of SAP Aktiengesellschaft Systeme, Anwendungen, Produkte in der Datenverarbeitung and subsidiaries as of December 31, 1998 and 1997, and the results of their operations and cash flows for each of the three years in the period ended December 31, 1998 in conformity with generally accepted accounting principles in Germany.

Application of accounting principles generally accepted in the United States would have affected shareholders' equity as of December 31, 1998 and 1997 and net income for each of the years in the three-year period ended December 31, 1998 to the extent summarized in note 6 to the consolidated financial statements.

Eschborn/Frankfurt/M.  
February 26, 1999

ARTHUR ANDERSEN  
Wirtschaftsprüfungsgesellschaft  
Steuerberatungsgesellschaft mbH

Prof. Dr. WEBER  
Wirtschaftsprüfer

KLEIN  
Wirtschaftsprüfer

**SAP AKTIENGESELLSCHAFT**  
**CONSOLIDATED INCOME STATEMENTS**  
**For the years ended December 31,**

	Note	1998 <sup>(1)</sup> \$(000)	1998 DM (000)	1997 DM (000)	1996 DM (000)
Sales revenues .....	(7)	5,078,161	8,465,294	6,017,466	3,722,150
Increase in inventory of unfinished services		12,178	20,300	2,472	961
Other operating income .....	(8)	<u>101,542</u>	<u>169,271</u>	<u>79,966</u>	<u>73,712</u>
		<u>5,191,881</u>	<u>8,654,865</u>	<u>6,099,904</u>	<u>3,796,823</u>
Cost of services and materials .....	(9)	(707,944)	(1,180,143)	(605,719)	(394,384)
Personnel expenses .....	(10)	(1,825,774)	(3,043,564)	(2,074,920)	(1,338,473)
Depreciation and amortization .....		(162,776)	(271,348)	(195,321)	(164,591)
Other operating expenses .....	(11)	<u>(1,359,724)</u>	<u>(2,266,660)</u>	<u>(1,611,728)</u>	<u>(955,746)</u>
Operating expenses .....		<u>(4,056,218)</u>	<u>(6,761,715)</u>	<u>(4,487,688)</u>	<u>(2,853,194)</u>
Operating results .....		<u>1,135,663</u>	<u>1,893,150</u>	<u>1,612,216</u>	<u>943,629</u>
(Loss)/income from investments .....	(12)	(18,909)	(31,522)	3,500	1,745
Income from marketable securities and loans of financial assets .....		1,124	1,874	1,469	2,188
Write-down of financial assets .....	(13)	(2,457)	(4,096)	(2,811)	(8,192)
Net interest income .....	(14)	<u>36,483</u>	<u>60,816</u>	<u>52,562</u>	<u>27,843</u>
Result from ordinary operations .....		1,151,904	1,920,222	1,666,936	967,213
Taxes on income .....	(15)	(493,525)	(822,706)	(708,354)	(382,414)
Other taxes .....		<u>(27,095)</u>	<u>(45,168)</u>	<u>(33,228)</u>	<u>(17,263)</u>
Total taxes .....		<u>(520,620)</u>	<u>(867,874)</u>	<u>(741,582)</u>	<u>(399,677)</u>
Net income .....		<u>631,284</u>	<u>1,052,348</u>	<u>925,354</u>	<u>567,536</u>
Net income before minority interest .....		<u>629,471</u>	<u>1,049,225</u>	<u>922,982</u>	<u>566,219</u>
Minority interests .....		(1,813)	(3,023)	(2,372)	(1,317)
Beginning retained earnings — SAP AG ..		176,561	294,328	240,698	133,784
Distribution of dividends of SAP AG shareholders .....		(176,493)	(294,213)	(240,192)	(133,615)
Transfer to revenue reserves .....		<u>(434,229)</u>	<u>(723,858)</u>	<u>(629,160)</u>	<u>(325,690)</u>
Ending retained earnings — SAP AG .....		<u><u>195,310</u></u>	<u><u>325,582</u></u>	<u><u>294,328</u></u>	<u><u>240,698</u></u>

(1) The 1998 figures have been translated solely for the convenience of the reader at an exchange rate of DM 1.667 to \$1.00, the Noon Buying Rate on December 31, 1998.

See Notes to Consolidated Financial Statements

**SAP AKTIENGESELLSCHAFT**  
**CONSOLIDATED BALANCE SHEETS**  
**as of December 31,**

	<u>Note</u>	<u>1998<sup>(1)</sup></u> \$ (000)	<u>1998</u> DM (000)	<u>1997</u> DM (000)
<b>ASSETS</b>				
Intangible assets . . . . .	(16)	90,794	151,354	81,299
Property, plant & equipment . . . . .	(17)	757,239	1,262,317	853,312
Financial assets . . . . .	(18)	146,598	244,379	227,794
Fixed assets . . . . .		<u>994,631</u>	<u>1,658,050</u>	<u>1,162,405</u>
Inventories . . . . .	(19)	22,131	36,893	7,515
Accounts receivable . . . . .	(20)	1,778,422	2,964,629	2,435,699
Accounts due from related parties . . . . .		386	643	6,030
Other assets . . . . .	(21)	116,609	194,387	167,152
Accounts receivable and other assets . . . . .		<u>1,895,417</u>	<u>3,159,659</u>	<u>2,608,881</u>
Marketable securities . . . . .	(22)	—	—	167,092
Liquid assets . . . . .	(23)	786,341	1,310,831	997,420
Current assets . . . . .		<u>2,703,889</u>	<u>4,507,383</u>	<u>3,780,908</u>
Deferred taxes . . . . .	(15)	54,578	90,981	89,978
Prepaid expenses and deferred charges . . . . .	(24)	24,214	40,364	36,969
Total assets . . . . .		<u>3,777,312</u>	<u>6,296,778</u>	<u>5,070,260</u>
<b>SHAREHOLDERS' EQUITY AND LIABILITIES</b>				
Subscribed capital <sup>(2)</sup> . . . . .	(25)	313,630	522,822	521,513
Capital reserves . . . . .	(26)	271,658	452,854	428,469
Revenue reserves . . . . .		1,464,299	2,440,986	1,803,510
Retained earnings — SAP AG . . . . .		195,310	325,582	294,328
Minority interests . . . . .		8,487	14,147	14,552
Shareholders' equity . . . . .		<u>2,253,384</u>	<u>3,756,391</u>	<u>3,062,372</u>
Special reserves for capital investment subsidies and allowances . . . . .	(27)	159	265	418
Pension reserves and similar obligations . . . . .	(28)	25,268	42,122	41,461
Other reserves and accrued liabilities . . . . .	(29)	759,538	1,266,149	1,120,114
Reserves and accrued liabilities . . . . .		<u>784,806</u>	<u>1,308,271</u>	<u>1,161,575</u>
Bonds . . . . .	(30)	2,056	3,428	4,713
Other liabilities . . . . .	(31)	668,685	1,114,697	814,239
Other liabilities . . . . .		670,741	1,118,125	818,952
Deferred income . . . . .	(32)	68,222	113,726	26,943
Total shareholders' equity and liabilities . . . . .		<u>3,777,312</u>	<u>6,296,778</u>	<u>5,070,260</u>

(1) The 1998 figures have been translated solely for the convenience of the reader at an exchange rate of DM 1.667 to \$1.00, the Noon Buying Rate on December 31, 1998.

(2) Includes contingent capital of DM 3,428 thousand and DM 4,737 thousand as of December 31, 1998 and 1997, respectively.

See Notes to Consolidated Financial Statements

**SAP AKTIENGESELLSCHAFT**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
**For the years ended December 31,**

	<u>Note</u>	<u>1998<sup>(1)</sup></u> <u>\$ (000)</u>	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Net income before minority interest .....		629,470	1,049,325	922,982	566,219
Minority interest .....		1,813	3,023	2,372	1,317
Net income .....		<u>631,283</u>	<u>1,052,348</u>	<u>925,354</u>	<u>567,536</u>
Depreciation and amortization .....		162,776	271,348	195,321	164,591
Write-up of property plant and equipment .....		—	—	(102)	(2,137)
Gain on disposal of property, plant and equipment .....		(812)	(1,353)	(2,067)	(417)
Write-downs of financial assets .....		2,457	4,096	2,811	8,192
Write-up of financial assets .....		(648)	(1,081)	(863)	(789)
Increase in pension reserves .....		397	661	11,935	19,000
(Decrease)/increase in other long-term liabilities .....		(33,292)	(55,497)	55,340	22,603
Increase in deferred taxes .....		(602)	(1,003)	(52,516)	(38,145)
(Increase)/decrease in inventories .....		(17,623)	(29,378)	284	(2,243)
Increase in accounts receivable and other assets .....		(330,401)	(550,778)	(997,117)	(563,966)
Increase in short-term liabilities .....		120,895	201,532	459,914	258,703
Increase in long-term liabilities .....		151,502	252,554	319,600	164,526
Increase in prepaid expenses and deferred charges .....		(2,037)	(3,395)	(18,249)	(3,618)
Increase in deferred income .....		52,060	86,783	8,654	12,987
Net cash provided by operating activities .....	(33)	<u>735,955</u>	<u>1,226,837</u>	<u>908,299</u>	<u>606,823</u>
Purchase of intangible assets and property, plant and equipment .....		(455,917)	(760,013)	(574,709)	(220,638)
Purchase of financial assets .....		(45,567)	(75,961)	(79,106)	(16,308)
Proceeds from disposal of fixed assets .....		41,074	68,471	85,384	29,689
Changes in companies subject to consolidation .....		—	—	—	694
(Decrease)/increase in special reserves for capital investment subsidies and allowances .....		(92)	(153)	352	(7)
Decrease/(increase) in liquid assets (maturities greater than 90 days) .....		165,063	275,160	(58,511)	(231,457)
Net cash used by investing activities .....	(34)	<u>(295,439)</u>	<u>(492,496)</u>	<u>(626,590)</u>	<u>(438,027)</u>
Dividends paid .....		(176,493)	(294,213)	(240,193)	(133,615)
Proceeds from premium on convertible bonds .....		14,628	24,385	75,125	215,493
Proceeds from the increase in capital stock					
from the exercise of the conversion rights .....		785	1,309	3,976	11,374
Payments made on the conversion of the convertible bonds .....		(771)	(1,285)	(3,956)	(11,345)
Proceeds from the issuance of long-term debt .....		28,858	48,106	316	—
Principal payments made on long-term debt .....		(121)	(202)	(59)	(376)
Net cash used in financing activities .....	(35)	<u>(133,113)</u>	<u>(221,900)</u>	<u>(164,791)</u>	<u>81,531</u>
Effect of foreign exchange rates on cash .....		(54,566)	(90,962)	86,798	21,004
Net increase in cash and cash equivalents .....		<u>252,837</u>	<u>421,479</u>	<u>203,716</u>	<u>271,331</u>
Cash and cash equivalents at the beginning of the year .....		<u>475,591</u>	<u>792,810</u>	<u>589,094</u>	<u>317,763</u>
Cash and cash equivalents at the end of the year .....	(36)	<u><u>728,428</u></u>	<u><u>1,214,289</u></u>	<u><u>792,810</u></u>	<u><u>589,094</u></u>

(1) The 1998 figures have been translated solely for the convenience of the reader at an exchange rate of DM 1.667 to \$ 1.00, the Noon Buying Rate on December 31, 1998.

See Notes to Consolidated Financial Statements

**SAP AKTIENGESELLSCHAFT**

**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**  
**For the Years ended December 31,**

	Number of Shares Issued and Outstanding (000)	Subscribed Capital DM (000)	Capital Reserves DM (000)	Revenue Reserves DM (000)	Group Retained Earnings DM (000)	Minority Interest DM (000)	Total DM (000)
January 1, 1996 . . . .	101,234	506,163	137,851	748,670	133,784	3,052	1,529,520
Net income . . . . .					567,536		567,536
Convertible bonds exercised . . . . .	2,273	11,374	215,493				226,867
Dividends . . . . .					(133,615)		(133,615)
Transfer to revenue reserves . . . . .				324,612	(324,612)		—
Minority interest . . .					(1,317)	1,317	—
Currency translation adjustment . . . . .				23,133			23,133
Other . . . . .				(924)	(1,078)	(127)	(2,129)
December 31, 1996	<u>103,507</u>	<u>517,537</u>	<u>353,344</u>	<u>1,095,491</u>	<u>240,698</u>	<u>4,242</u>	<u>2,211,312</u>
Net income . . . . .					925,354		925,354
Convertible bonds exercised . . . . .	795	3,976	75,125				79,101
Dividends . . . . .					(240,192)		(240,192)
Transfer to revenue reserves . . . . .				624,082	(624,082)		—
Minority interest . . .					(2,372)	2,372	—
Currency translation adjustment . . . . .				88,118			88,118
Other . . . . .				(4,181)	(5,078)	7,938	(1,321)
December 31, 1997	<u>104,302</u>	<u>521,513</u>	<u>428,469</u>	<u>1,803,510</u>	<u>294,328</u>	<u>14,552</u>	<u>3,062,372</u>
Net income . . . . .					1,052,348		1,052,348
Convertible bonds exercised . . . . .	262	1,309	24,385				25,694
Dividends . . . . .					(294,213)		(294,213)
Transfer to revenue reserves . . . . .				699,108	(699,108)		—
Minority interest . . .					(3,023)	3,023	—
Effect of excluding companies from consolidation . . . .				24,354	(24,168)		186
Currency translation adjustment* . . . . .				(87,866)			(87,866)
Other . . . . .				1,880	(582)	(3,428)	(2,130)
December 31, 1998	<u>104,564</u>	<u>522,822</u>	<u>452,854</u>	<u>2,440,986</u>	<u>325,582</u>	<u>14,147</u>	<u>3,756,391</u>

\* The cumulative translation adjustment resulting from the translation of foreign subsidiaries financial statements was a negative DM 15,913 thousand as of December 31, 1998.

See Notes to Consolidated Financial Statements

**SAP AKTIENGESELLSCHAFT**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**A. GENERAL INFORMATION**

**(1) Business and Basis of Presentation**

**Business**

SAP Aktiengesellschaft Systeme, Anwendungen, Produkte in der Datenverarbeitung ("SAP AG"), together with its subsidiaries (collectively, "SAP," "Group" or "Company"), is a leading international developer and supplier of integrated business application software designed to provide cost-effective comprehensive solutions for businesses. The Company's primary product, the R/3 System, is designed to provide customers with a palette of standard business solutions arranged in applications which provide integrated enterprise-wide processing of business workflows. In 1998, the Company announced the introduction of its New Dimension products, which initially include independent business applications for supply chain management, customer relationship management, business intelligence and electronic commerce. The Company's products also include Industry Specific products and other independent business applications, and the Company provides the necessary technological infrastructure to support complementary third-party software solutions. The Company has many strategic partners that offer complementary third-party software, services and hardware. The Company's services include consulting, support and training. Customers range in size from large multinational enterprises to medium- and smaller-sized companies.

**Basis of Presentation**

The consolidated financial statements of the Company have been prepared in accordance with generally accepted accounting principles in Germany ("German GAAP") as prescribed by the German Commercial Code and the German Stock Corporation Act. In line with the ongoing internationalization of the Company's accounting policies, since January 1, 1998 the SAP consolidated financial statements have also been prepared in compliance with Generally Accepted Accounting Principles in the United States ("U.S. GAAP"), as far as permissible under German GAAP. As a result, there have been changes from 1997 in the treatment of currency translation and pension reserves. The impact of adopting these changes was less than 1% on the 1998 consolidated net income. In addition, the 1997 and 1996 consolidated statements of cash flows have been modified to reconcile to cash and cash equivalents for comparative purposes. In all other respects, the accounting and consolidation methods employed are unchanged since the previous year. In Section C of these notes, "Significant Differences between German GAAP and U.S. GAAP," there is a detailed reconciliation showing the effect of applying U.S. GAAP on net income for the three years ended December 31, 1998 and shareholders' equity at December 31, 1998 and 1997, where to have done so in the consolidated financial statements would have led to noncompliance with German GAAP. In the interests of clarity, the notes to the consolidated financial statements include both the disclosures required by law on the individual items of the balance sheets and income statements, and the information which may optionally be included either on the balance sheets and income statements or in the notes to the consolidated financial statements. In situations where additional information is required to be disclosed it has been done in the notes to the financial statements. Certain reclassifications were made to prior year amounts to conform them to the current year presentation.

All monetary amounts in the notes to the consolidated financial statements are shown in Deutsche Marks ("DM" or "Marks"). All Mark financial data that have been converted into United States Dollars ("\$" or "Dollars") have been converted at the noon buying rate in New York City for cable transfers in foreign currencies as certified for customs by the Federal Reserve Bank of New York (the "Noon Buying Rate") on December 31, 1998, which was 1.667 Marks per 1.00 Dollar.

**B. SIGNIFICANT ACCOUNTING POLICIES**

**(2) Consolidated Companies**

The consolidated financial statements include, in addition to SAP AG, all major subsidiaries in which SAP AG holds, directly or indirectly, a majority of the voting rights. German GAAP enabled the Company to

not consolidate three subsidiaries, as their impact on the Group's net worth, financial position, and results of operations is immaterial (their balance sheet totals amount to 0.1% of the consolidated balance sheet total).

The investments in unconsolidated subsidiaries are recorded at cost and included in the investment in affiliated companies.

The following table summarizes the change of companies included in the consolidated financial statements:

	<u>German</u>	<u>Foreign</u>	<u>Total</u>
December 31, 1997 .....	7	42	49
Additions .....	1	4	5
Retirements .....	<u>1</u>	<u>1</u>	<u>2</u>
December 31, 1998 .....	<u>7</u>	<u>45</u>	<u>52</u>

One joint venture, SRS Software- und Systemhaus Dresden GmbH, Dresden/Germany, in which SAP AG holds a 50% interest, is consolidated on a proportional basis. Four companies of which SAP AG directly holds between 20% and 50% ("associated companies") are consolidated by the equity method.

The effect of including new companies in the consolidated financial statements during 1998 did not limit comparability of the annual financial statements with those of the previous years.

All subsidiaries, joint ventures and associated companies are listed on pages F-36 to F-38 with ownership percentages, net income, equity, and numbers of employees.

### (3) Consolidation Policies

The consolidated financial statements include the financial statements of individual subsidiaries in accordance with German GAAP and in conformity with the accounting and valuation policies of SAP. The book value method of consolidation has been used, which is substantially equivalent to the purchase method under U.S. GAAP. Under such method, differences between acquisition costs and attributable shareholders' equity are first allocated to identifiable assets acquired or liabilities assumed to the extent of their fair market values. Any remaining goodwill is capitalized as an intangible asset and amortized using the straight-line method over its estimated useful life of five years.

Intercompany receivables, payables, revenues, expenses and profits among the consolidated companies are eliminated. Deferred taxes are calculated for consolidation entries affecting income, when it is expected that the difference in the tax expense will be reversed in a future year. Minority interest is identified for subsidiaries not wholly owned by the parent company.

Goodwill arising from associated companies' equity is calculated based upon the same principles.

The retained earnings of the Company, as shown in the consolidated financial statements, are the retained earnings of SAP AG. The retained earnings of the subsidiaries are included in the Company's revenue reserves.

### (4) Currency Translation

Effective January 1, 1998, the financial statements of the fully consolidated foreign subsidiaries are translated according to the functional currency method. Since all subsidiaries are economically independent, and thus their functional currency is their local currency, their balance sheets are translated into DM at median rates on the balance sheet date ("closing rate") and their income statements are translated at annual average rates. Differences from the prior year's translation of assets and liabilities and translation differences between the balance sheet and the income statement do not affect income. These currency translation differences are disclosed in the consolidated statements of changes in shareholders' equity on page F-5.

Further in fiscal 1997, fixed assets (excluding loans), shareholders' equity, depreciation and amortization of foreign subsidiaries are translated using the historical exchange rate. The remaining assets and liabilities were translated at the closing rate. Differences arising from the translation of balance sheet items are charged directly to the revenue reserves, without affecting income for the year. In fiscal 1997, with the exception of

depreciation and amortization, which are translated at historical rates, expense and income items are translated at the average rate for the year. The net income for the year is translated at the closing rate, at December 31. The translation difference from the income statements is charged to income.

During 1997, the financial statements of the individual companies include accounts receivable in foreign currencies, which are translated at the lower of the exchange rate on the transaction date or the buying rate on the balance sheet date. Losses arising from movements in exchange rates were recorded. Accounts payable in foreign currencies are valued at the higher of the applicable rates. Effective January 1, 1998 the valuation of foreign accounts receivable and liabilities are translated at the closing rate with resulting gains and losses reflected in income.

The significant exchange rates of key currencies affecting the Group changed as follows:

Currency	ISO Code	Closing rate to the DM at December 31,		Average exchange rate to the DM for the year	
		1998	1997	1998	1997
1 U.S. Dollar .....	USD	1.6730	1.7921	1.7469	1.7371
100 Japanese Yen.....	JPY	1.4505	1.3838	1.3250	1.4309
1 British Pound.....	GBP	2.7980	2.9820	2.8924	2.8493
1 Canadian Dollar .....	CAD	1.0770	1.2445	1.1687	1.2506
1 Australian Dollar.....	AUD	1.0230	1.1725	1.0820	1.2805

## (5) Accounting and Valuation Policies

### Intangible Assets and Property, Plant and Equipment

Purchased intangible assets are shown at cost and amortized on a straight-line basis over a maximum of five years. All existing goodwill included in the consolidated financial statements is derived from the acquisition of software companies and is amortized on a straight-line basis over its estimated life of five years.

Property, plant and equipment are shown at cost less accumulated depreciation, where appropriate, based on their expected useful lives. Where permanent impairments were incurred, unplanned write-downs have been made.

	Useful lives of property, plant and equipment
Buildings (placed in service until the end of 1990) .....	50 years
Buildings (placed in service after 1990) .....	25 years
Leasehold improvements .....	Based upon the lease contract
IT equipment .....	3 to 5 years
Office furniture .....	4 to 15 years
Automobiles .....	5 years

Buildings and leasehold improvements are depreciated using the straight-line method. Other fixed assets with an expected useful life of up to three years are depreciated using the straight-line method. For property, plant and equipment with an expected useful life of more than three years the declining balance method is generally used, and the depreciation method is changed to the straight-line method in the year in which the amount of depreciation under the straight-line method exceeds that calculated under the declining balance method. Low-value assets are expensed in the year of acquisition.

### Financial Assets

Financial assets are shown at cost. A write-down in the value of financial assets, at the balance sheet date, only occurs if there is a permanent impairment. Interest-free loans to employees and to third parties are discounted to their present value.

## **Current Assets**

Inventories are shown at the lower of purchase/production cost or market value. Production costs consist of direct salaries, indirect salaries, and materials. Other costs are not included in inventories.

Accounts receivable from software sales are posted on the basis of the number of authorized users, provided that the customer has legally signed an irrevocable contract with the Company, and the software has been delivered. Maintenance revenues are recognized proportionally over the term of the maintenance contract. Accounts receivable for consulting and training services are recognized after performance of these services. Accounts receivable are stated at their nominal value, which approximates fair market value. Receivables with foreseeable individual and country risks are written down on a case-by-case basis. Interest-free loans with a remaining term exceeding one year are discounted to their present value using interest rates effective locally.

Marketable securities are valued at the lower of cost or market as of the balance sheet date. Gains on marketable securities are recognized when realized. Other assets are shown at their nominal value, which approximates fair value.

## **Prepaid Expenses and Deferred Charges**

Prepaid expenses and deferred charges are determined by allocating expenses to the periods to which they are attributable.

## **Deferred Taxes**

On the consolidated balance sheets, deferred taxes are established for temporary differences, which are expected to arise in the future, between assets, liabilities and net income calculated for tax purposes and for financial reporting purposes. Moreover, deferred taxes are established on the consolidated balance sheets for temporary differences resulting from consolidation measures.

Deferred taxes are computed by the “deferral method,” under which the enacted tax rate applicable to the local subsidiaries is applied. Deferred tax amounts are shown net on the consolidated balance sheets.

## **Reserves and Accrued Liabilities**

Effective January 1, 1998, provisions for pensions of domestic and foreign subsidiaries are based on actuarial computations according to the “Projected Unit Credit Method”. The assumptions used to calculate the provision for pensions are shown in note 28 — “Pension Reserves and Similar Obligations.” Until the end of 1997, reserves for pension obligations in Germany were stated at the highest amounts allowable for tax purposes, in accordance with German tax law. An interest rate of 6% per annum was applied. Foreign subsidiaries recorded their pension reserves in accordance with similar principles. The relief fund of SAP Altersvorsorge e.V. has assumed indirect pension commitments towards employees of SAP AG. SAP AG, as the sponsor of the relief fund, established a reserve for indirect pension obligations until 1997.

Accrued taxes are calculated on the basis of the planned distribution of income.

The other reserves and accrued liabilities take into account foreseeable risks and contingent obligations which are probable and reasonably estimable.

## **Liabilities**

Liabilities are shown at the amounts payable, which approximate fair market value.

## **Derivatives**

The Group uses derivative financial instruments for hedging purposes. Forward exchange contracts, and to a lesser extent currency options, are employed to reduce currency risk that results from engaging in international transactions.

The hedges cover risk from potential currency fluctuations arising from existing as well as forecasted underlying transactions. Existing underlying transactions represent transactions that have been already recorded in the financial statements. The forecasted underlying transactions reflect budget assumptions, which

historically have approximated actual results. The derivatives used to hedge existing transactions are treated together with the ordinary operations as one valuation unit, and the contracts are grouped in portfolios for each currency.

The derivative instruments used to hedge forecasted transactions are marked to market individually at the end of the accounting period. In accordance with German commercial valuation regulations, for a portfolio with a negative valuation, a provision for anticipated losses is recorded currently in income. By contrast, positive valuations are not recognized into income.

#### **Credit Arrangements**

Certain of the Company's foreign subsidiaries have lines of credit available which allow them to borrow in the local currency to the extent SAP AG has guaranteed such amounts. At December 31, 1998, the Company had approximately DM 526.7 million available through such arrangements under which the Company may borrow on an overdraft or short-term basis. Interest under all lines is determined at the time of borrowing based on current market rates.

#### **Consolidated Statements of Cash Flow**

The consolidated statements of cash flows show the effect of inflows and outflows in the course of the fiscal year on the Group's cash and cash equivalents, and has been prepared in accordance with Statement of Financial Accounting Standards No. 95, "Statement of Cash Flows" ("SFAS 95"). The statement distinguishes between cash flows from operating activities, investing activities, and financing activities. The liquid assets are comprised of cash and cash equivalents with an original maturity of less than three months and time deposits with maturities exceeding three months. Liquid assets are reconciled to cash and cash equivalents in note 36 of Section F — "Supplemental information on the Consolidated Statements of Cash Flows."

#### **Use of Estimates**

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent amounts at the date of the consolidated financial statements and reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

## C. SIGNIFICANT DIFFERENCES BETWEEN GERMAN GAAP AND U.S. GAAP

### (6) Reconciliation to U.S. GAAP

The consolidated financial statements of the Company have been prepared in accordance with German GAAP. In 1998, the Company modified its accounting and reporting practices to reflect U.S. GAAP, as far as permissible under German GAAP. The remaining differences result from circumstances in which the application of U.S. GAAP would have led to noncompliance with German GAAP. This section shows the effect of fully applying U.S. GAAP to net income for the three years ended December 31, 1998 and shareholders' equity as of December 31, 1998 and 1997.

#### Reconciliation of Net Income from German GAAP to U.S. GAAP:

	Note	December 31,			
		1998 <sup>(1)</sup> \$(000)	1998 DM (000)	1997 DM (000)	1996 DM (000)
Net income as reported in the consolidated financial statements under German GAAP . . . .		631,284	1,052,348	925,354	567,536
Minority interests . . . . .		(1,813)	(3,023)	(2,371)	(1,317)
Net income as reported in the consolidated financial statements under German GAAP after minority interests . . . . .		629,471	1,049,325	922,983	566,219
Revenue recognition . . . . .	(a)	(29,630)	(49,393)	(77,491)	(166,937)
Pension provisions . . . . .	(b)	(3,217)	(5,363)	1,901	13,484
Business combinations (goodwill & in-process R&D) . . . . .	(c)	(1,289)	(2,148)	(10,568)	(2,423)
Income taxes . . . . .	(d)	7,572	12,623	(2,296)	(22,193)
SAR program . . . . .	(e)	9,383	15,641	—	—
Other . . . . .	(f),(g)	(6,631)	(11,052)	10,122	4,502
Tax effect of U.S. GAAP adjustments . . . . .	(d)	12,577	20,966	28,796	59,234
Minority interests . . . . .	(h)	8	14	127	265
Net income in accordance with U.S. GAAP . .		<u>618,244</u>	<u>1,030,613</u>	<u>873,574</u>	<u>452,151</u>
Net income per ordinary share under U.S. GAAP					
Basic . . . . .	(m)	5.90	9.83	8.38	4.40
Diluted . . . . .	(m)	5.87	9.78	8.30	4.29

#### Reconciliation of Shareholders' Equity from German GAAP to U.S. GAAP:

	Note	December 31,		
		1998 <sup>(1)</sup> \$(000)	1998 DM (000)	1997 DM (000)
Shareholders' equity as reported in the consolidated balance sheets under German GAAP . . . . .		2,253,384	3,756,391	3,062,372
Less: minority interests . . . . .	(h)	(8,487)	(14,147)	(14,552)
Equity of SAP AG shareholders . . . . .		2,244,897	3,742,244	3,047,820
Revenue recognition . . . . .	(a)	(267,080)	(445,222)	(395,829)
Pension provisions . . . . .	(b)	—	—	5,363
Business combinations (goodwill & in-process R&D) . . . .	(c)	(3,261)	(5,436)	(3,288)
SAR program . . . . .	(e)	9,383	15,641	—
Unrealized gains on available-for-sale marketable securities . . . . .	(f)	40,816	68,041	5,472
Other . . . . .	(d),(g),(h)	11,354	18,927	37,461
Tax effect of U.S. GAAP adjustments . . . . .	(d)	97,196	162,026	141,060
Shareholders' equity under U.S. GAAP . . . . .		<u>2,133,305</u>	<u>3,556,221</u>	<u>2,838,059</u>

(1) The 1998 figures have been translated solely for the convenience of the reader at an exchange rate of DM 1.667 to \$1.00, the Noon Buying Rate on December 31, 1998.

The changes in consolidated shareholders' equity in accordance with U.S. GAAP are as follows:

	Shares Issued and Outstanding DM (000)	Comprehensive Income DM (000)	Retained Earnings DM (000)	Other Comprehensive Income DM (000)	Capital Reserves DM (000)	Subscribed Capital DM (000)	Total DM (000)
January 1, 1996	101,234		793,207		137,851	506,163	1,437,221
Net income		452,151	452,151				452,151
Other comprehensive income, net of tax:							
Unrealized gains on marketable securities		607					
Currency translation adjustment		26,843					
Other comprehensive income		27,450		27,450			27,450
Comprehensive income		479,601					
Convertible bonds exercised	2,273				215,493	11,374	226,867
Dividends			(133,615)				(133,615)
Tax benefit of convertible bonds					24,061		24,061
Other			(2,266)				(2,266)
December 31, 1996	103,507		1,109,477	27,450	377,405	517,537	2,031,869
Net income		873,574	873,574				873,574
Other comprehensive income, net of tax:							
Unrealized gains on marketable securities		4,865					
Currency translation adjustment		95,933					
Other comprehensive income		100,798		100,798			100,798
Comprehensive income		974,372					
Convertible bonds exercised	795				75,125	3,976	79,101
Dividends			(240,192)				(240,192)
Tax benefit of convertible bonds					2,296		2,296
Other			(9,387)				(9,387)
December 31, 1997	104,302		1,733,472	128,248	454,826	521,513	2,838,059
Net income		1,030,613	1,030,613				1,030,613
Other comprehensive income, net of tax:							
Unrealized gains on marketable securities		62,569					
Currency translation adjustment		(104,061)					
Other comprehensive income		(41,492)		(41,492)			(41,492)
Comprehensive income		989,121					
Convertible bonds exercised	262				24,385	1,309	25,694
Dividends			(294,213)				(294,213)
Tax benefit of convertible bonds					2,814		2,814
Other			1,436		(6,690)		(5,254)
December 31, 1998	104,564		2,471,308	86,756	475,335	522,822	3,556,221

**(a) Revenue Recognition**

The Company recognizes revenue for U.S. GAAP in compliance with the American Institute of Certified Public Accountants ("AICPA") Statement of Position 97-2, "Software Revenue Recognition" ("SOP 97-2"). SOP 97-2 was issued on October 27, 1997, and is effective for transactions entered into in fiscal years beginning after December 15, 1997. Prior to the issuance of SOP 97-2, AICPA Statement of Position 91-1 ("SOP 91-1") prescribed the accounting treatment for revenue recognition under U.S. GAAP. Earlier application of SOP 97-2 was encouraged as of the beginning of fiscal years or interim periods for which information or financial statements had not been issued. Because prior to the issuance of SOP 97-2 the Company had not previously issued information or financial statements on a U.S. GAAP basis, SOP 97-2 has been applied for all years reported under U.S. GAAP.

In accordance with SOP 97-2, software license fee revenues are recognized when persuasive evidence of an arrangement exists, delivery has occurred, the license fee is fixed and determinable and the collection of the fee is probable. Generally, the Company's licensing arrangements do not provide for significant production, modification or customization of software. Under U.S. GAAP, the Company allocates a portion of its software revenues to post-contract support activities or other services or products provided to the customer free of charge or at non-standard discounts when included under the licensing arrangement. Amounts allocated are based upon standard prices charged for those services or products. Under German GAAP, the Company accrues for estimated costs of providing post-contract support activities or other services provided to the customer free of charge when included under the licensing arrangement.

Under certain license arrangements, customers agree to license additional groups of users at prescribed future dates on a non-cancellable basis. Under German GAAP, the Company recognizes revenue for such additional users at the dates on which they are authorized to access the software. Under U.S. GAAP, the Company recognizes software revenues when the criteria for recognition set forth in SOP 97-2 have been achieved.

Under U.S. GAAP, revenues from post-contract support are recognized ratably over the term of the maintenance contract on a straight-line basis. Consulting and training services are generally recognized at the time the service is performed.

**(b) Pension Benefits**

In 1998, the Company adopted Statement of Financial Accounting Standards No. 87, "Employers' Accounting for Pensions" ("SFAS 87"), as permitted under German GAAP and required under U.S. GAAP. In prior years, the Company provided for pension costs in accordance with Article 6a of the German Income Tax Act. SFAS 87 requires actuarial computation of the pension costs for defined benefit plans using the Projected Unit Credit Method and includes current service cost, interest cost, return on plan assets and amortization of actuarial gains/losses and prior service cost. Prior service cost is amortized over the future service period of active employees. Unrecognized gains and losses exceeding 10% of the greater of the projected obligation or the market-related value of the plan assets are amortized over the average service period of active employees.

**(c) Business Combinations (Goodwill, In-Process Research and Development)**

In accordance with German GAAP, the difference between the purchase price and the aggregate fair value of tangible and identifiable intangible assets and liabilities acquired in a business combination may be either charged directly to shareholders' equity or capitalized as goodwill and amortized over its estimated useful life, not to exceed 40 years. For acquisitions prior to January 1, 1997, the Company has elected to record goodwill as a direct reduction to shareholders' equity. Goodwill arising from business combinations consummated thereafter is capitalized and amortized through the income statement over its estimated useful life, generally 5 years. Under U.S. GAAP, goodwill must be capitalized and amortized through the income statement over its estimated useful life, which may not exceed 40 years. The Company expects, and thus maintains, consistent useful lives under German and U.S. GAAP.

Under German GAAP, in-process research and development costs are not identified in connection with the allocation of the purchase price but rather are treated as goodwill. U.S. GAAP requires the allocation of a portion of the purchase price for acquired in-process research and development if applicable. The costs associated with in-process research and development activities having no alternative future uses must be charged to expense at the time of acquisition. Under U.S. GAAP, the Company expensed DM 7.8 million in 1997 for acquired in-process research and development relating to software products for which technological feasibility had not yet been established at the date of acquisition. Acquisitions in 1998 or 1996 did not result in a charge for in-process research and development.

**(d) Income Taxes**

U.S. GAAP requires recognition of deferred tax assets and liabilities for temporary differences using enacted tax rates in effect at year-end in accordance with Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes" ("SFAS 109"). Under SFAS 109, net operating loss carryforwards

that are available to reduce future taxes are recognized as deferred tax assets. Such amounts are reduced by a valuation allowance to the extent that it is more likely than not that some portion or all of the deferred tax assets will not be realized. The valuation allowance is DM 37,710 thousand and DM 5,133 thousand in 1998 and 1997, respectively. Under German GAAP, deferred taxes are not recorded for net operating losses.

Under both German GAAP and U.S. GAAP, deferred tax liabilities are not reported for the unremitted earnings of non-German subsidiaries as management considers such amounts to be permanently reinvested.

In August 1994, the Company established a convertible bond program for certain of its foreign and domestic employees. Compensation expense for this plan is treated differently for financial reporting and tax purposes in certain countries. The tax effect of such differences is charged or credited directly to the related components of shareholders' equity for U.S. GAAP purposes. Under German GAAP, the tax benefit is recorded as a reduction to income taxes for financial reporting.

**(e) Stock Appreciation Rights Plan**

In 1998, the Company implemented a stock appreciation rights ("SAR") plan. Under this plan, eligible employees are entitled to receive cash equal to a portion of the appreciation in SAP AG preference shares during the measurement period, approximately one-year. Payment, if any, under the SAR plan will be made in installments over a period of approximately 26 months, provided that, subject to certain exceptions, the eligible employee continues to be actively employed on the payment dates. Under both German and U.S. GAAP, expenses are recorded based upon the SAR's market price determined by the Black-Scholes pricing model. Under German GAAP, the expense is recognized over the measurement period of approximately one year. Under U.S. GAAP, the expense is recognized over the payment period of approximately 26 months.

**(f) Marketable Securities**

Under German GAAP, marketable debt and equity securities are valued at the lower of acquisition cost or market value at the balance sheet date. Under U.S. GAAP, marketable debt and equity securities, other than investments accounted for by the equity method, are categorized as either trading, available-for-sale or held-to-maturity, depending on management's intent with respect to holding such investments. The Company's securities are considered to be available-for-sale and, therefore, are valued under U.S. GAAP at fair market value at the balance sheet date. Unrealized gains and losses are excluded from earnings and reported net of tax in a separate component of shareholders' equity. Market values were obtained based on available market prices as of December 31, 1998, 1997 and 1996. Gains or losses recognized on sales of securities are based on specific identification.

The Company acquires its ordinary shares and preference shares for the purpose of offering them to its employees. Under German GAAP, the Company records purchases of its own shares at cost as marketable securities. Upon distribution to its employees, the Company recognizes gains and losses based on the differences in the fair market value of SAP AG shares on the date of purchase and distribution. Under U.S. GAAP, purchases of Company shares are included in treasury stock as a separate component of shareholders' equity. Differences between the purchase and sale price of treasury stock are included in shareholders' equity and have no impact on earnings. Differences between German and U.S. GAAP resulting from treasury stock transactions did not materially impact shareholders' equity at December 31, 1998 or 1997 or net income for the years ended 1998, 1997 or 1996.

**(g) Other**

Other differences consist of miscellaneous valuation differences that individually are not material. These items include foreign currency translation differences and unrealized foreign currency transaction gains that are recognized for U.S. GAAP purposes.

**(h) Minority Interests**

Under German GAAP, minority interest is included as a separate component of shareholders' equity and included in net income. Under U.S. GAAP, minority interest is shown as a liability and not included in net income.

## Additional U.S. GAAP Information

### (i) Newly Issued Accounting Pronouncements

The Company adopted Statement of Financial Accounting Standards No. 130, "Reporting Comprehensive Income" ("SFAS 130"), in 1998. SFAS 130 requires disclosure of comprehensive income and its components, which includes all changes in shareholders' equity excluding those activities resulting from investments by or distributions to shareholders. See the changes in consolidated shareholders' equity in accordance with U.S. GAAP set forth on page F-12.

The Financial Accounting Standards Board issued Statement No. 133, "Accounting for Derivative Instruments and for Hedging Activities" ("SFAS 133") in June 1998. SFAS 133 requires derivative financial instruments to be recorded in the balance sheet at their fair value. Changes in market values are charged against earnings in each period unless specific hedge criteria are met. Changes in market values for certain qualifying hedges are recorded in equity and are realized in earnings in conjunction with the gain or loss on the hedged item or transaction. SFAS 133 is effective for January 1, 2000. The Company has elected to implement SFAS 133 on January 1, 1999. Although dependent upon fluctuations in exchange rates and interest rates and the volume of transactions involving derivative instruments, the Company anticipates that the adoption of SFAS 133 will not have a material impact on its annual consolidated financial statements. Because the Company's hedging strategy focuses on annual exchange and interest rate risks, the effect of SFAS 133 on interim results may be more significant but is also dependent upon the factors mentioned above.

### (j) Research and Development

Research and development costs are expensed as incurred under German GAAP. The current U.S. accounting rule, Statement of Financial Accounting Standards No. 86, "Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed," does not materially affect the Company. Research and development expenses for the years ended December 31, 1998, 1997 and 1996 are DM 1,122.7 million, DM 701.8 million and DM 505.5 million, respectively.

### (k) Marketable Securities and Financial Assets

Investments classified as available-for-sale include marketable securities, financial assets and certain other investments. Amounts at December 31, 1998 and 1997 are as follows:

	1998			
	Amortized Cost DM (000)	Gross Unrealized Gains DM (000)	Gross Unrealized Losses DM (000)	Market Value DM (000)
Equity securities .....	63,110	113,217	5,733	170,594
Debt securities .....	<u>106,924</u>	<u>7,850</u>	<u>—</u>	<u>114,774</u>
Total .....	<u>170,034</u>	<u>121,067</u>	<u>5,733</u>	<u>285,368</u>
	1997			
	Amortized Cost DM (000)	Gross Unrealized Gains DM (000)	Gross Unrealized Losses DM (000)	Market Value DM (000)
Equity securities .....	12,922	5,725	—	18,647
Debt securities .....	<u>286,914</u>	<u>5,805</u>	<u>429</u>	<u>292,290</u>
Total .....	<u>299,836</u>	<u>11,530</u>	<u>429</u>	<u>310,937</u>

**(l) Fair Value of Financial Instruments**

The Company utilizes various types of financial instruments in the ordinary course of business. These instruments include recorded assets and liabilities as well as items that principally involve off-balance sheet risk. Detailed information about the fair value of the Company's financial instruments is included in notes 18, 22 and 40. A summary of the Company's financial instrument fair values is presented below.

- Marketable securities, other investments and long-term investments: The fair values of marketable securities, other investments and long-term investments are based upon available quoted market prices on December 31.
- Accounts receivable and other loans: The fair values of accounts receivable and other loans approximate their carrying values. Differences between the fair values and carrying values represent unrealized transaction gains resulting from changes in foreign currency exchange rates.
- Short-term bank loans and overdrafts: The carrying value of short-term debt approximates fair value because of the brief duration of time between the origination of the borrowings and their maturities.
- Derivative financial instruments: The fair value of derivatives generally reflects the estimated amounts the Company would pay or receive to terminate the contracts at the reporting date, thereby considering unrecognized gains or losses of open positions. Carrying values, as required under German GAAP, represent the lower of cost or market.

	At December 31,			
	1998		1997	
	Carrying Value DM (000)	Fair Value DM (000)	Carrying Value DM (000)	Fair Value DM (000)
Accounts receivable .....	2,964,629	2,964,629	2,435,699	2,449,860
Marketable securities .....	—	—	167,092	168,042
Other investments .....	63,110	170,594	50,920	62,329
Long-term investments .....	106,924	114,774	109,498	114,248
Other loans .....	36,147	36,147	41,584	41,826
Derivative financial instruments				
Forward exchange contracts .....	(217)	607	(2,052)	3,551
Foreign currency options .....	—	—	—	562
Short-term bank loans and overdrafts .....	236,643	236,643	163,547	163,547

**(m) Earnings Per Share**

Earnings per ordinary share and preference share for the years ended December 31, 1998, 1997 and 1996 have been calculated using the two-class method in accordance with Statement of Financial Accounting Standards No. 128, "Earnings per Share." Net income is allocated between ordinary shares and preference shares in calculating earnings per share for each class of stock. This allocation weights net income available (net income less dividends), to the extent that each class of stock may share in the earnings as if all of the earnings for the period had been distributed. Distributed earnings are allocated to each class of stock based on the respective dividends paid. In arriving at earnings per share, the total allocated earnings for each class of stock is divided by the weighted average number of shares outstanding to which the earnings are allocated. Because the Company's convertible bonds have a dilutive effect, they were considered outstanding for the diluted earnings per share calculation.

	1998 <sup>(1)</sup>	1997 <sup>(1)</sup>	1996 <sup>(1)</sup>
Net income applicable to basic and diluted EPS: .....	1,030,613	873,574	452,151
Less dividends:			
Ordinary shares .....	(170,788)	(140,281)	(79,282)
Preference shares .....	(123,425)	(99,912)	(54,333)
Net income available to holders of ordinary shares and preference shares .....	<u>736,400</u>	<u>633,381</u>	<u>318,536</u>

	1998 <sup>(1)</sup>		1997 <sup>(1)</sup>		1996 <sup>(1)</sup>	
	Ordinary	Preference	Ordinary	Preference	Ordinary	Preference
Allocated net income available . . . . .	428,849	307,551	370,841	262,540	189,277	129,259
Distributed earnings . . . . .	170,788	123,425	140,281	99,912	79,282	54,333
Total allocated earnings — Basic EPS . . . . .	599,637	430,976	511,122	362,452	268,559	183,592
Conversion of convertible bonds . . . . .	(3,338)	3,338	(5,012)	5,012	(7,160)	7,160
Total allocated earnings — Diluted EPS . . . . .	<u>596,299</u>	<u>434,314</u>	<u>506,110</u>	<u>367,464</u>	<u>261,399</u>	<u>190,752</u>

Weighted average ordinary shares outstanding applicable to basic and diluted EPS:

	1998 <sup>(1)</sup>		1997 <sup>(1)</sup>		1996 <sup>(1)</sup>	
	Ordinary	Preference	Ordinary	Preference	Ordinary	Preference
Weighted average shares — Basic . . . . .	60,998	43,436	60,994	42,842	60,988	41,061
Conversion convertible bonds . . . . .	2	815	6	1,409	12	3,190
Weighted average shares — Diluted . . . . .	<u>61,000</u>	<u>44,251</u>	<u>61,000</u>	<u>44,251</u>	<u>61,000</u>	<u>44,251</u>
Earnings per share — Basic . . . . .	9.83	9.92	8.38	8.46	4.40	4.47
Earnings per share — Diluted . . . . .	9.78	9.81	8.30	8.30	4.29	4.31

(1) Amounts are in (i) thousands, except for per share information, and (ii) DM, except for share information.

## D. NOTES TO THE CONSOLIDATED INCOME STATEMENTS

### (7) Sales Revenues

Sales revenues by types of activity for the years ended December 31, are as follows:

	1998 DM (000)	1997 DM (000)	1996 DM (000)
Product . . . . .	5,256,941	4,097,117	2,630,512
Consulting . . . . .	2,193,276	1,251,128	735,302
Training . . . . .	893,360	579,928	306,102
Other . . . . .	121,717	89,293	50,234
Total . . . . .	<u>8,465,294</u>	<u>6,017,466</u>	<u>3,722,150</u>

### (8) Other Operating Income

Other operating income for the years ended December 31, are as follows:

	1998 DM (000)	1997 DM (000)	1996 DM (000)
Foreign exchange gains . . . . .	127,680	43,401	27,962
Employee contributions for company cars . . . . .	12,965	9,923	7,324
Gain on disposal of fixed assets . . . . .	5,838	4,958	3,432
Gain on sale of marketable securities . . . . .	4,551	1,640	1,826
Cafeteria sales . . . . .	2,496	1,633	1,338
Rental income . . . . .	2,121	3,553	2,944
Income from prior periods . . . . .	806	1,666	104
Other income . . . . .	<u>12,814</u>	<u>13,192</u>	<u>28,782</u>
Total . . . . .	<u>169,271</u>	<u>79,966</u>	<u>73,712</u>

The significant change in exchange gains resulted from the high volatility of foreign currencies and income from hedging transactions.

### (9) Cost of Services and Materials

Cost of services and materials for the years ended December 31 are as follows:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Raw materials and supplies, purchased goods .....	23,604	16,485	13,967
Purchased services .....	1,156,539	589,234	380,417
Total .....	<u>1,180,143</u>	<u>605,719</u>	<u>394,384</u>

The changes in purchased services resulted from additional purchases of consulting services, which have been invoiced to SAP customers.

### (10) Personnel Expenses / Number of Employees

Personnel expenses for the years ended December 31, are as follows:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Salaries .....	2,615,945	1,786,980	1,138,518
Social security .....	336,106	217,988	143,630
Pension expense .....	91,513	69,952	56,325
Total .....	<u>3,043,564</u>	<u>2,074,920</u>	<u>1,338,473</u>

The average number of employees was as follows:

	<u>1998</u>	<u>1997</u>	<u>1996</u>
Employees .....	17,323	11,558	8,177

The 1998 figures include 362 employees of the consolidated joint venture company, determined on a proportional basis. The corresponding number of employees for 1997 was 330.

### (11) Other Operating Expenses

Other operating expenses for the years ended December 31, are as follows:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Travel .....	424,008	292,029	191,973
Marketing .....	391,518	279,871	162,786
Licenses and commissions .....	322,363	209,215	104,819
Rent .....	280,213	202,067	118,553
Additional personnel expenses .....	165,143	96,398	58,038
Telecommunication/postage .....	118,130	84,905	51,423
Bad debt expense .....	110,978	52,034	34,218
Consulting/administration .....	108,955	89,195	58,572
Exchange rate differences .....	101,380	83,305	28,596
Service costs/maintenance .....	85,296	63,003	42,642
Entertainment .....	46,479	48,988	24,400
Documentation .....	35,150	28,320	20,633
Other third-party services .....	25,322	21,402	13,749
Computer services .....	10,492	6,453	4,910
Insurance .....	9,340	8,254	7,451
Other .....	31,893	46,289	32,983
Total .....	<u>2,266,660</u>	<u>1,611,728</u>	<u>955,746</u>

Major changes in other operating expenses resulted from increased business transactions as well as the increased number of employees.

**(12) Loss / Income from Investments**

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Income from unconsolidated affiliated companies .....	863	591	—
Results from associated companies .....	<u>(32,385)</u>	<u>2,909</u>	<u>1,745</u>
Total .....	<u>(31,522)</u>	<u>3,500</u>	<u>1,745</u>

The negative results from associated companies in 1998 includes a DM 36,549 thousand start-up loss at Pandesic LLC, held jointly with Intel Corp.

**(13) Write-down of Financial Assets**

The write-down of financial assets includes the discounting to present value of interest-free loans to employees.

**(14) Net Interest Income**

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Other interest and similar income .....	67,739	56,344	30,461
Interest and similar expenses .....	<u>(6,923)</u>	<u>(3,782)</u>	<u>(2,618)</u>
	<u>60,816</u>	<u>52,562</u>	<u>27,843</u>

Interest income is derived primarily from cash and cash equivalents, marketable securities, long-term investments and other loans.

**(15) Taxes on Income**

Income tax expense for the years ended December 31, consists of the following:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Current taxes			
German corporation tax on income .....	283,283	228,570	139,099
German trade tax on income .....	126,962	107,949	70,485
Foreign .....	<u>442,301</u>	<u>417,161</u>	<u>207,443</u>
	852,546	753,680	417,027
Deferred taxes .....	<u>(29,840)</u>	<u>(45,326)</u>	<u>(34,613)</u>
Total taxes on income .....	<u>822,706</u>	<u>708,354</u>	<u>382,414</u>

Income taxes in 1998 compared to 1997 increased mainly due to higher earnings in 1998.

The income before income taxes is attributable to the following geographic locations:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Germany .....	908,576	785,122	495,497
Foreign .....	<u>966,478</u>	<u>848,586</u>	<u>454,453</u>
Income before income taxes .....	<u>1,875,054</u>	<u>1,633,708</u>	<u>949,950</u>

The effective tax rate, before other taxes, of the SAP Group for the years ended December 31, 1998 and 1997 was 42.8% and 42.5% respectively. The table below shows the reconciliation of the current German statutory retained earnings corporate income tax rate of 45% and the effective tax rate. Because of the lower German tax rate for income distributed to shareholders, the domestic corporation tax is reduced according to the Executive Board's proposal for income appropriation.

The corporation tax reduction applies to the year that gives rise to dividend distribution. In addition, shareholders tax-resident in Germany receive a credit of the full corporation tax against their personal income

tax liability. A solidarity surcharge of 5.5% is imposed in respect of German corporation tax liability. The effective domestic trade tax rate, before other taxes, for the years ended December 31, 1998 and 1997 was 14.3% and 13.5%, respectively.

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Income before income taxes .....	1,875,054	1,633,708
German trade tax on income .....	<u>130,169</u>	<u>107,249</u>
Profit after German trade tax on income .....	<u>1,744,883</u>	<u>1,526,459</u>
Corporation tax on income @ 45% .....	785,198	686,907
German trade tax on income .....	130,169	107,249
Solidarity charge .....	12,799	15,927
Tax reduction for dividend payments .....	(69,351)	(63,046)
Foreign tax rate differential, net .....	(92,779)	(51,098)
Utilization of loss carryforwards .....	(929)	(613)
Tax on non-deductible expenses .....	19,041	11,092
Tax effect on current year losses .....	53,326	1,701
Consolidation effects .....	(7,701)	1,990
Other .....	<u>(7,067)</u>	<u>(1,755)</u>
	<u>822,706</u>	<u>708,354</u>

In accordance with the deferral method, the differences between assets, liabilities and net income calculated for tax purposes and for financial reporting purposes that are expected to reverse in the future are shown below. In contrast to U.S. GAAP, net operating losses are not recorded as a deferred tax asset under German GAAP. Based upon past results of subsidiaries and expectations of similar performance in the future, the taxable income of these subsidiaries will more likely than not be sufficient to fully recognize the net deferred asset related to these subsidiaries.

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Deferred tax assets		
Accounts receivable .....	22,434	23,791
Other loans .....	3,489	2,822
Pension provision .....	—	5,486
Other provisions .....	105,561	100,678
Other .....	<u>2,836</u>	<u>2,310</u>
Deferred tax assets .....	<u>134,320</u>	<u>135,087</u>
Deferred tax liabilities		
Fixed assets .....	(13,305)	(19,842)
Deferred income .....	(24,516)	(25,267)
Pension provision .....	<u>(5,518)</u>	<u>—</u>
Deferred tax liabilities .....	<u>(43,339)</u>	<u>(45,109)</u>
Net deferred tax asset .....	<u>90,981</u>	<u>89,978</u>

At December 31, 1998, DM 130,831 thousand of deferred tax assets are short-term and DM 3,489 thousand are long-term, while short-term deferred tax liabilities amount to DM 24,516 thousand and long-term deferred tax liabilities amount to DM 18,823 thousand. At December 31, 1997, DM 94,535 thousand of deferred tax assets are short-term and DM 40,552 thousand are long-term, while short-term deferred tax liabilities amount to DM 25,267 thousand and long-term deferred tax liabilities amount to DM 19,842 thousand.

Certain foreign subsidiaries of the Company have net operating loss carryforwards at December 31, 1998 and 1997, totaling approximately DM 125,973 thousand and DM 17,283 thousand, respectively, which may be

used to offset future taxable income. The increase in net operating loss carryforwards resulted from losses in Japan in the amount of DM 110,226 thousand. The majority of carryforward losses will expire at different dates over the next three to five years.

## E. NOTES TO THE CONSOLIDATED BALANCE SHEET

### (16) Intangible Assets

<u>DM (000)</u>	<u>Trademarks, similar rights and assets</u>	<u>Goodwill</u>	<u>Total</u>
<b>Purchase cost</b>			
1/1/98.....	61,799	55,006	116,805
Foreign currency exchange rate changes.....	3,119	—	3,119
Additions.....	46,622	65,206	111,828
Retirements.....	(13,851)	—	(13,851)
Transfers.....	34	—	34
12/31/98.....	<u>97,723</u>	<u>120,212</u>	<u>217,935</u>
<b>Accumulated depreciation</b>			
1/1/98.....	31,465	4,041	35,506
Foreign currency exchange rate changes.....	2,499	—	2,499
Additions.....	20,205	22,136	42,341
Retirements.....	(13,769)	—	(13,769)
Transfers.....	4	—	4
12/31/98.....	<u>40,404</u>	<u>26,177</u>	<u>66,581</u>
<b>Book value 12/31/98</b> .....	<b><u>57,319</u></b>	<b><u>94,035</u></b>	<b><u>151,354</u></b>
Book value 12/31/97.....	<u>30,334</u>	<u>50,965</u>	<u>81,299</u>

The additions to trademarks, similar rights and assets relate to software programs. The additions to goodwill in the Group relate to the capitalization of goodwill arising from consolidation.

### (17) Property, Plant and Equipment

<u>DM (000)</u>	<u>Land, leasehold improvements, and buildings, including buildings on third-party land</u>	<u>Other property, plant and equipment</u>	<u>Advance payments and construction in progress</u>	<u>Total</u>
<b>Purchase cost</b>				
1/1/98.....	609,679	747,028	99,076	1,455,783
Foreign currency exchange rate changes.....	4,361	442	(165)	4,638
Additions.....	154,387	256,580	237,218	648,185
Retirements.....	(7,230)	(148,539)	—	(155,769)
Transfers.....	81,801	11,473	(93,308)	(34)
12/31/98.....	<u>842,998</u>	<u>866,984</u>	<u>242,821</u>	<u>1,952,803</u>
<b>Accumulated depreciation</b>				
1/1/98.....	103,009	499,462	—	602,471
Foreign currency exchange rate changes.....	780	3,155	—	3,935
Additions.....	48,838	180,169	—	229,007
Retirements.....	(4,832)	(140,091)	—	(144,923)
Transfers.....	(220)	216	—	(4)
12/31/98.....	<u>147,575</u>	<u>542,911</u>	<u>—</u>	<u>690,486</u>
<b>Book value 12/31/98</b> .....	<b><u>695,423</u></b>	<b><u>324,073</u></b>	<b><u>242,821</u></b>	<b><u>1,262,317</u></b>
Book value 12/31/97.....	<u>506,670</u>	<u>247,566</u>	<u>99,076</u>	<u>853,312</u>

The additions in other property, plant and equipment comprise primarily the purchase of computer hardware.

## (18) Financial Assets

<u>DM (000)</u>	<u>Shares in affiliated companies</u>	<u>Investments in associated companies</u>	<u>Other investments</u>	<u>Long-term investments</u>	<u>Other loans</u>	<u>Total</u>
<b>Purchase cost</b>						
1/1/98 .....	11,984	18,773	50,920	109,499	50,154	241,330
Foreign currency exchange rate changes .....	940	—	(542)	(571)	3	(170)
Additions .....	12,902	7,085	41,822	331	13,821	75,961
Retirements .....	<u>(13,229)</u>	<u>(156)</u>	<u>(29,090)</u>	<u>(2,335)</u>	<u>(17,744)</u>	<u>(62,554)</u>
12/31/98 .....	<u>12,597</u>	<u>25,702</u>	<u>63,110</u>	<u>106,924</u>	<u>46,234</u>	<u>254,567</u>
<b>Accumulated depreciation</b>						
1/1/98 .....	4,966	—	—	—	8,570	13,536
Foreign currency exchange rate changes .....	—	—	—	—	1	1
Additions .....	891	—	—	—	3,205	4,096
Retirements .....	<u>(5,756)</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>(608)</u>	<u>(6,364)</u>
Write-ups .....	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>(1,081)</u>	<u>(1,081)</u>
12/31/98 .....	<u>101</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>10,087</u>	<u>10,188</u>
<b>Book value 12/31/98 .....</b>	<b><u>12,496</u></b>	<b><u>25,702</u></b>	<b><u>63,110</u></b>	<b><u>106,924</u></b>	<b><u>36,147</u></b>	<b><u>244,379</u></b>
Book value 12/31/97 .....	<u>7,018</u>	<u>18,773</u>	<u>50,920</u>	<u>109,499</u>	<u>41,584</u>	<u>227,794</u>

Financial assets include long-term investments at December 31, as follows:

	<u>1998</u>			<u>1997</u>		
	<u>Book values DM (000)</u>	<u>Market values DM (000)</u>	<u>Unrealized gains DM (000)</u>	<u>Book values DM (000)</u>	<u>Market values DM (000)</u>	<u>Unrealized gains DM (000)</u>
Securities with fixed maturities .....	100,000	107,850	7,850	100,000	104,750	4,750
Other securities .....	<u>6,924</u>	<u>6,924</u>	<u>—</u>	<u>9,499</u>	<u>9,499</u>	<u>—</u>
	<u>106,924</u>	<u>114,774</u>	<u>7,850</u>	<u>109,499</u>	<u>114,249</u>	<u>4,750</u>

Securities with fixed maturities mature in more than five years.

The other loans include interest bearing and non-interest bearing loans to employees and third parties.

## (19) Inventories

As of December 31, 1998, inventories primarily consist of work-in-process of DM 31,472 thousand which are services performed on consulting contracts, accounted for under the completed contract method, and office supplies and documentation of DM 5,421 thousand. Under the completed contract method, the cost of services provided are recorded in inventory and the related gross profit is recognized upon project completion and customer acceptance.

## (20) Accounts Receivable

Amounts shown on the consolidated balance sheets are net of allowance for bad debts of DM 157,201 thousand and DM 92,362 thousand at December 31, 1998 and 1997, respectively.

At December 31, 1998 and 1997, accounts receivable having a remaining term greater than one year and less than two years are DM 56,140 thousand and DM 86,732 thousand, respectively.

Concentrations of operating risks are limited due to the Company's large customer base and its dispersion across many different industries and countries worldwide. No single customer accounted for 10% or more of revenues for fiscal year 1998 and 1997.

**(21) Other Assets**

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Other assets .....	194,387	167,152
— thereof with a remaining term greater than 1 year .....	(110,950)	(95,927)

Other assets include interest receivable for the period, tax refund claims, notes receivable, cash surrender value of insurance policies and rental deposits.

**(22) Marketable Securities**

This item consists primarily of fixed-income securities.

The book values, market values and unrealized gains of the marketable securities on the consolidated balance sheets as of December 31, are as follows:

	<u>1998</u>			<u>1997</u>		
	<u>Book</u> <u>values</u> <u>DM (000)</u>	<u>Market</u> <u>values</u> <u>DM (000)</u>	<u>Unrealized</u> <u>gains</u> <u>DM (000)</u>	<u>Book</u> <u>values</u> <u>DM (000)</u>	<u>Market</u> <u>values</u> <u>DM (000)</u>	<u>Unrealized</u> <u>gains</u> <u>DM (000)</u>
Securities with fixed maturities .....	—	—	—	167,050	167,984	934
Other securities .....	—	—	—	42	58	16
	<u>—</u>	<u>—</u>	<u>—</u>	<u>167,092</u>	<u>168,042</u>	<u>950</u>

Marketable securities with fixed maturities as of December 31, are as follows:

	<u>Nominal Value</u>	
	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Due within 1 year .....	—	5,000
Due between 1 and 5 years .....	—	125,000
Due after 5 years .....	—	35,413
	<u>—</u>	<u>165,413</u>

During the fiscal year, SAP AG acquired 39,402 of its own shares, representing 0.04 % of the capital stock, at an average market price of DM 829, for the purpose of offering them to its employees (Article 71 (1) no. 2 of the German Stock Corporation Act). Such shares were transferred to employees during the year at an average price of DM 824 per share. The Company did not hold any of its own shares as of the balance sheet closing date.

The foreign subsidiaries of the Company purchased 196,225 American Depository Receipts (“ADRs”), at an average price of USD 45.94 and were distributed by an administrator to employees. Twelve ADRs are equivalent to one preference share.

**(23) Liquid Assets**

Liquid assets are stated at their nominal amounts. The Company has cash investment policies that limit investments to investment grade securities.

The Company considers all cash and cash equivalents and time deposits as liquid assets.

Liquid assets at December 31, consists of the following:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Cash at banks .....	313,304	213,220
Time deposits with maturities of 3 months or less at the date of acquisition .....	<u>900,985</u>	<u>579,590</u>
<b>Cash and cash equivalents</b> .....	<u>1,214,289</u>	<u>792,810</u>
Time deposits with maturities greater than 3 months and less than 1 year .....	26,542	123,710
Time deposits with maturities exceeding 1 year .....	<u>70,000</u>	<u>80,900</u>
<b>Liquid assets</b> .....	<u><u>1,310,831</u></u>	<u><u>997,420</u></u>

Liquid assets, in the consolidated balance sheets, are reconciled to cash and cash equivalents shown on the consolidated statements of cash flows, in Section F, note 36.

**(24) Prepaid Expenses and Deferred Charges**

This balance sheet line item is mainly comprised of prepayments for rental contracts, leases and maintenance contracts.

**(25) Subscribed Capital**

At December 31, 1998, issued and outstanding subscribed capital of the Company was as follows:

<u>Number and the type of shares</u>	<u>DM</u>
61,000,000 no-par ordinary shares .....	305,000,000
43,564,499 no-par preference shares .....	<u>217,822,495</u>
	<u><u>522,822,495</u></u>

Preference shares rank equally with the ordinary shares with respect to liquidation rights and pre-emptive rights. A holder of preference shares is entitled to a cumulative annual preferred dividend which exceeds the annual dividend paid to holders of ordinary shares by an amount equal to DM 0.05 per preference share but in no event less than a minimum dividend equal to DM 0.05 per preference share. Holders of preference shares have no voting rights except in limited instances. The preference shares are not entitled to a preference in liquidation but rank pari passu with the ordinary shares.

By resolution of the Annual General Meeting held May 7, 1998, the Executive Board was authorized, subject to the approval of the Supervisory Board, to issue additional no-par bearer preference shares which may be issued through the period ending May 15, 2003. The issuance of all of these shares would increase capital stock by DM 10,000 thousand. The new shares are to be offered to shareholders for subscription. This right was not exercised during the fiscal year.

During 1998, the subscribed capital increased only to the extent holders exercised their conversion rights under convertible bonds. As conversion rights under the 1988/1998 convertible bond issue were exercised, DM 28 thousand of contingent capital (corresponding to 4,450 no-par ordinary shares and 1,120 no-par preference shares) was converted into capital stock. As conversion rights under the 1994/2004 convertible bond issue were exercised in 1998, DM 1,281 thousand of contingent capital (corresponding to 256,260 no-par preference shares) was converted into capital stock. As a result, contingent capital decreased by DM 1,309 thousand, and totaled DM 3,428 thousand on December 31, 1998. Subsequent to the conversion of these bonds, there were 685,501 approved preference shares remaining that had not yet been converted at December 31, 1998.

Refer to the consolidated statement of changes in shareholders' equity in the consolidated financial statements.

**(26) Capital Reserves**

Of the increase in the capital reserves in 1998, DM 40 thousand resulted from the premium necessary to cover the exercise of conversion rights for the 1988/1998 convertible bonds, and DM 24,345 thousand from the premium necessary to cover the exercise of conversion rights for the 1994/2004 convertible bonds.

**(27) Special Reserves for Capital Investment Subsidies and Allowances**

The consolidated balance sheets include special reserves for capital investment subsidies and allowances pursuant to regional development programs.

**(28) Pension Reserves and Similar Obligations**

In 1998, the Company adopted the new disclosure requirements of Statement of Financial Accounting Standards No. 132, "Employer's Disclosures About Pensions and Other Postretirement Benefits."

The accrued pension and other similar obligations at December 31, consist of the following:

	<u>1998</u>	<u>1997</u>
	DM (000)	DM (000)
Domestic pension plans reserves . . . . .	35,974	15,059
Other pension plans and similar obligations . . . . .	<u>6,148</u>	<u>26,402</u>
	<u>42,122</u>	<u>41,461</u>

Reserves for pension obligations are established on the basis of benefit plans that promise old age, disability and survivors' benefits. In most cases, the benefit plans are performance-oriented, based on the length of service and compensation of employees.

Effective January 1, 1998, the German pension plans and their respective costs are determined using the Projected Unit Credit Method in accordance with U.S. GAAP as defined by SFAS 87, "Employers' Accounting for Pensions." Current pensions and remunerations prevailing on the balance sheet date as well as forecasted future increases in these parameters are included in the valuation.

In 1997, similar obligations contained an amount of DM 19,726 thousand that corresponds to the difference between the admissible value under commercial law of the obligations computed in accordance with the German Income Tax Act, and the value of the assets held by the relief fund. As a result of the adoption of U.S. GAAP, this obligation is included in pension reserves in 1998.

The following disclosure as of December 31, 1997 does not correspond to the values included in the balance sheet, and is included only for comparative purposes in accordance with U.S. GAAP.

**Domestic Plans**

The pension plans in Germany are performance-oriented and the related plan assets are held in accordance with the Company's policies by SAP Altersvorsorge e.V., a legally independent relief fund sponsored by SAP AG. The payments of the Company to the relief fund are recorded as current period expense. Members of the Executive Board are covered by individual, performance-oriented benefit plans, for which reserves have been established.

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
<b>Change in Benefit Obligation</b>		
Benefit obligation at beginning of year .....	151,599	122,449
Service cost .....	21,799	18,327
Interest cost .....	9,861	7,963
Actuarial (gain) / loss .....	3,938	2,970
Benefits paid .....	<u>(139)</u>	<u>(110)</u>
Benefit obligation at end of year .....	<u>187,058</u>	<u>151,599</u>
<b>Change in Plan Assets</b>		
Fair value of plan assets at beginning of the year .....	79,260	59,547
Actual return on plan assets .....	6,253	4,684
Employer contributions .....	24,187	19,483
Life / disability insurance premiums and expenses .....	(3,533)	(4,344)
Benefits paid .....	<u>(139)</u>	<u>(110)</u>
<b>Fair value of plan assets at end of the year</b> .....	<u>106,028</u>	<u>79,260</u>
Funded status .....	81,030	72,339
Unrecognized net actuarial gain .....	(31,803)	(24,611)
Unrecognized transition asset .....	<u>(27,121)</u>	<u>(29,076)</u>
<b>Accrued benefit cost</b> .....	<u>22,106</u>	<u>18,652</u>

Included in the 1998 accrued benefit cost (DM 22,106 thousand) is the fair value of plan assets in the amount of DM 13,868 thousand for the Board of Directors plan. In the consolidated balance sheets, the amount is included in other assets.

The following assumptions were used to develop the change in pension obligation and the changes in plan assets of the German plans:

	<u>1998</u> <u>%</u>	<u>1997</u> <u>%</u>
Discount rate .....	6.0	6.5
Expected return on plan assets .....	6.5	6.5
Rate of compensation increase .....	4.0	5.0

**Components of Net Periodic Benefit Cost:**

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Service cost .....	21,799	18,327
Interest cost .....	9,861	7,963
Expected return on plan assets .....	(6,619)	(5,137)
Net amortization .....	<u>2,600</u>	<u>2,564</u>
<b>Net periodic benefit cost</b> .....	<u>27,641</u>	<u>23,717</u>

**Foreign Plan**

SAP has a noncontributory defined benefit plan for certain of its foreign employees who are at least 21 years old and have been employed by the Company for at least one year. The plan provides benefits based upon compensation levels, age and years of service.

The change of the pension obligation and the change in plan assets for the foreign plan are as follows:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
<b>Change in Benefit Obligation</b>		
Benefit obligation at beginning of year .....	22,477	9,725
Service cost .....	13,356	6,975
Interest cost .....	1,626	1,392
Actuarial (gain) / loss .....	2,907	2,516
Foreign currency exchange rate changes .....	<u>(2,380)</u>	<u>1,868</u>
<b>Benefit obligation at end of year .....</b>	<b><u>37,986</u></b>	<b><u>22,476</u></b>
<b>Change in Plan Assets</b>		
Fair value of plan assets at beginning of the year .....	20,913	5,293
Actual return on plan assets .....	2,200	1,441
Employer contribution .....	18,022	12,866
Foreign currency exchange rate changes .....	<u>(2,394)</u>	<u>1,312</u>
<b>Fair value of plan assets at end of the year .....</b>	<b><u>38,741</u></b>	<b><u>20,912</u></b>
Funded status .....	(755)	1,564
Unrecognized net actuarial gain .....	<u>(5,832)</u>	<u>(3,627)</u>
<b>Prepaid benefit cost .....</b>	<b><u>(6,587)</u></b>	<b><u>(2,063)</u></b>

The following assumptions were used to develop the change in pension obligation and the change in plan assets of the foreign plan:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Discount rate .....	6.75	7.0
Expected return on plan assets .....	8.0	8.0
Rate of compensation increase .....	6.0	6.0

**Components of Net Periodic Benefit Cost:**

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Service cost .....	13,356	6,975
Interest cost .....	1,626	1,392
Expected return on plan assets .....	(1,981)	(900)
Net amortization and deferral .....	<u>115</u>	<u>59</u>
<b>Net periodic benefit cost .....</b>	<b><u>13,116</u></b>	<b><u>7,526</u></b>

**(29) Other Reserves and Accrued Liabilities**

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Accrued taxes .....	298,813	489,676
Other reserves and accrued liabilities .....	<u>967,336</u>	<u>630,438</u>
	<b><u>1,266,149</u></b>	<b><u>1,120,114</u></b>

Accrued taxes comprise liabilities for current and prior years.

Other reserves and accrued liabilities at December 31, are as follows:

	1998 DM (000)	1997 DM (000)
Obligations to employees.....	575,372	397,601
Obligations to suppliers.....	173,918	81,777
Vacation entitlement.....	112,334	77,954
SAR program obligation.....	47,581	—
Warranty and service costs.....	24,126	50,297
Contribution to employees' accident insurance account.....	5,445	4,003
Financial statement preparation costs.....	3,673	2,435
Other.....	24,887	16,371
	<u>967,336</u>	<u>630,438</u>

SAP accrues only for obligations when they are probable and reasonably estimable.

Obligations to employees relate primarily to variable bonus payments tied to earnings performance, paid out after the balance sheet date. Obligations to suppliers represent services received or goods purchased for which SAP has not yet been invoiced. Warranty and service costs accruals represent estimated future warranty obligations for periods of free maintenance, and other minor routine items provided under maintenance.

### (30) Bonds

This item comprises the outstanding portion of the SAP AG 6 % 1994/2004 convertible bond issue, which amounts to DM 3,428 thousand (DM 4,709 thousand as of December 31, 1997). The portion of the 1988/1998 floating-rate convertible bond issue outstanding on December 31, 1997 (DM 4 thousand) was comprised of DM 50 registered convertible bonds, and carried a right, exercisable up until October 20, 1998, to convert to SAP ordinary and preference shares. The exercise of the conversion right resulted in 4,450 ordinary shares totaling DM 22 thousand as a proportion of capital stock, and 1,120 preference shares totaling DM 6 thousand as a proportion of the capital stock. The 1994/2004 convertible bond issue is comprised of 4,000,000 registered convertible bonds with a value of DM 5 each. These convertible bonds carry a right, which can be exercised on June 30, July 31, August 31, September 30, October 31, or November 30 of any year up until June 30, 2004, to convert to preference shares. The exercise of remaining conversion rights would result in 685,501 no-par preference shares.

### (31) Other Liabilities

The information on liabilities required by German law is included in the following summary. The liabilities are unsecured, excluding retention of title and similar rights as is customary in the industry.

	Term less than 1 year DM (000)	Term between 1 and 5 years DM (000)	Term more than 5 years DM (000)	Balance on 12/31/1998 DM (000)	Balance on 12/31/1997 DM (000)
Bank loans and overdrafts.....	188,326	48,255	62	236,643	163,547
Advance payments received.....	98,809	—	—	98,809	30,972
Accounts payable.....	450,181	—	—	450,181	318,309
Payables due to unconsolidated affiliates.....	8,447	—	—	8,447	8,815
Taxes.....	181,708	—	—	181,708	157,132
Social security.....	58,971	—	—	58,971	42,193
Other liabilities.....	55,442	71	24,425	79,938	93,271
	<u>1,041,884</u>	<u>48,326</u>	<u>24,487</u>	<u>1,114,697</u>	<u>814,239</u>

The bank loans and overdrafts relate primarily to loans taken out in Japan due to the low interest rates prevailing in that country (DM 200,169 thousand).

In the previous year, liabilities with a remaining term not exceeding one year amounted to DM 809,701 thousand and those with a remaining term exceeding five years amounted to DM 4,151 thousand.

**(32) Deferred Income**

This balance is comprised mainly of deferred maintenance revenue.

**F. Information on the Consolidated Statements of Cash Flows**

**(33) Net Cash Provided by Operating Activities**

The increase in net cash provided by operating activities resulted from an increase in the Company's net income and a smaller increase in the accounts receivable due to effective receivables management. Interest payments in 1998 and 1997 were DM 6,107 thousand and DM 3,803 thousand respectively. Income taxes paid in fiscal 1998 and 1997 were DM 881,249 thousand and DM 560,725 thousand respectively, net of refunds.

**(34) Net Cash Used by Investing Activities**

The higher financial requirements in 1998 and 1997 were caused by greater investment in property, plant and equipment, necessary because of growth in the business and increased employee numbers. The investments were financed wholly from ordinary operations.

**(35) Net Cash Used for Financing Activities**

Financing activities for 1998 used cash of DM 221,901 thousand for dividend payments and provided proceeds from the issuance of debt.

**(36) Cash and Cash Equivalents**

The following table shows the reconciliation of liquid assets shown in the consolidated balance sheets to cash and cash equivalents shown in the consolidated statements of cash flows:

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>	<u>1996</u> <u>DM (000)</u>
Liquid assets . . . . .	1,310,831	997,420	737,394
Less: Time deposits			
Greater than 3 months . . . . .	<u>96,542</u>	<u>204,610</u>	<u>148,300</u>
Cash and cash equivalents . . . . .	<u>1,214,289</u>	<u>792,810</u>	<u>589,094</u>

**G. Additional Information**

**(37) Contingent Liabilities**

	<u>1998</u> <u>DM (000)</u>	<u>1997</u> <u>DM (000)</u>
Notes receivable sold . . . . .	41	13,128
Guarantees and endorsements . . . . .	3,015	364
Guarantees for unused lines of credit and other commitments . . . . .	437,529	162,639
Liabilities from the extension of collateral securities for others . . . . .	<u>55,238</u>	<u>6,570</u>
	<u>495,823</u>	<u>182,701</u>

Contingent liabilities listed above have not been accrued because the associated risk of loss is not probable.

**(38) Other Financial Commitments**

Commitments under rental and operating leasing contracts as of December 31, 1998:

	<u>DM (000)</u>
Due 1999 .....	198,072
Due 2000 .....	140,193
Due 2001 .....	95,136
Due 2002 .....	65,700
Due 2003 .....	48,630
Due thereafter .....	149,602

Purchase commitments amounting to DM 168,061 thousand at December 31, 1998 are within the limit of authorized capital expenditures.

**(39) Litigation and Claims**

The bankruptcy trustee of the U.S. company FoxMeyer Corp. (“FoxMeyer”) has instituted legal proceedings against SAP America, Inc., the American subsidiary of SAP AG, and SAP AG, claiming damages in an amount in excess of U.S.\$500 million, punitive damages and other relief. FoxMeyer was a pharmaceutical wholesaler that filed for bankruptcy protection in 1996. FoxMeyer’s bankruptcy trustee has alleged that SAP America, Inc. made false assurances concerning the functionality of the R/3 System software. A motion to dismiss brought by SAP AG and SAP America, Inc. is currently pending. While the ultimate outcome of this matter cannot be determined presently with certainty, the Company believes that FoxMeyer’s claims in this action are without merit. The Company is vigorously defending against the claims, and believes that this action is not likely to have a material effect on its results of operations, financial condition or cash flows.

SAP is subject to legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business. Although the outcome of these proceedings and claims cannot be predicted with certainty, management does not believe that the outcome of any of these matters will have a material adverse effect on the Company’s results of operations, financial condition or cash flows. Any litigation, however, involves potential risk and potentially significant litigation costs, and therefore there can be no assurance that any litigation which is now pending or which may arise in the future will not have a material adverse effect on the Company’s results of operations, financial condition, or cash flows.

**(40) Derivative Financial Instruments**

As an internationally active enterprise, the Company is subject to risks from interest-rate and currency fluctuations in its ordinary operations. The Company utilizes derivative financial instruments to reduce such risks as described below. The derivative financial instruments employed by the Company are exclusively marketable instruments with sufficient liquidity. The Company does not hold or issue derivative financial instruments for trading purposes. Consistent guidelines and strict controls govern the use of derivative financial instruments.

The Company is exposed to credit-related losses in the event of non-performance by counterparties to derivative financial instruments. To avoid these counterparty risks, the Company conducts business exclusively with major financial institutions. The credit exposure on interest rate, foreign exchange forward and currency option contracts is represented by the fair value of contracts with a positive fair value at year-end.

*Foreign Exchange Risk Management*

Most SAP AG subsidiaries have entered into license agreements with SAP AG pursuant to which the subsidiary acquires the right to sublicense the Company’s products to customers within a specific territory. Under those agreements, the subsidiaries generally are required to pay SAP AG a royalty equivalent to a percentage of the product fees paid to them by their customers within 90 days following the end of the month in which the subsidiary recognizes the revenue. These inter-company royalties payable to SAP AG are generally denominated in the respective subsidiary’s local currency in order to centralize the foreign currency

risks with SAP AG in Germany. The delay between the date when the subsidiary records product revenue and the date when payment is made to SAP AG by such subsidiary exposes SAP AG to foreign exchange risk.

The Company closely monitors its foreign exchange exposure. The Company enters into foreign exchange forward contracts and currency options to protect the existing and/or expected foreign currency inter-company claims and liabilities. Specifically, these foreign exchange contracts offset existing and anticipated inter-company receivables in the countries with significant operations including the United States, Japan, the United Kingdom, Switzerland and Australia. Anticipated transactions represent expected inter-company amounts resulting from revenues generated within the next 12 months from the purchase date of the derivative instrument. Generally, the maturities of such derivative instruments do not exceed 12 months from the date of purchase. Management believes the use of foreign currency derivative financial instruments reduces the risks that arise from doing business in international markets.

The notional values and fair values of the derivative financial instruments as of December 31, 1998 and 1997 are as follows:

<u>Foreign Exchange Derivatives</u>	<u>1998</u>		<u>1997</u>	
	<u>Notional Value</u>	<u>Fair Value</u>	<u>Notional Value</u>	<u>Fair Value</u>
	<u>DM (000)</u>	<u>DM (000)</u>	<u>DM (000)</u>	<u>DM (000)</u>
Forward exchange contracts				
Gains .....	444,989	824	247,820	5,603
Losses .....	169,396	(217)	91,740	(2,052)
Net gain.....	<u>614,385</u>	<u>607</u>	<u>339,560</u>	<u>3,551</u>
Net foreign exchange losses on underlying inter-company claims and liabilities .....		<u>—</u>		<u>(3,125)</u>
		<u>607</u>		<u>426</u>
Foreign currency options .....	—	—	25,600	562

See Section C for additional fair value information.

#### *Interest Rate Risk Management*

The Company enters into interest rate swaps to better manage the interest income on its cash equivalents, marketable securities and long-term investments and to partially mitigate the impact of German interest rate fluctuations on these investments. The Company holds such derivative instruments for purposes other than trading. No swaps were outstanding at December 31, 1998 and 1997.

#### **(41) Segment Information**

SAP is a leading international developer and supplier of integrated business application software designed to provide cost-effective comprehensive solutions for businesses.

The Company adopted Statement of Financial Accounting Standards No. 131, "Disclosures about Segments of an Enterprise and Related Information" ("SFAS 131"), in 1998. SFAS 131 establishes standards for the way in which public companies disclose certain information about operating segments in the Company's financial reports.

SAP operates in one industry segment, the design, development, marketing, licensing and support of client/server and mainframe standard business application software. The Company markets its products and services through its subsidiaries and distributors throughout the world. The majority of software development occurs in Germany although the Company maintains development facilities at certain of its foreign locations. SAP does not have a structure of operational segments for which separate financial data could be prepared.

The following table presents a summary of operations by geographic region. The following amounts are based upon consolidated data. Therefore, the total of each of the following categories reconciles to the consolidated financial statements.

	Sales by destination		Sales by operation		Results from ordinary operations		Total assets	
	1998	1997	1998	1997	1998	1997	1998	1997
	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)
Germany .....	1,565,088	1,149,078	1,726,544	1,262,552	911,134	792,819	1,874,280	1,659,477
Rest of EMEA <sup>(1)</sup> .....	2,233,644	1,488,449	2,107,651	1,451,065	385,328	313,262	1,543,812	1,200,026
Total EMEA .....	3,798,732	2,637,527	3,834,195	2,713,617	1,296,462	1,106,081	3,418,092	2,859,503
United States .....	3,068,493	2,105,573	3,073,749	2,053,307	513,547	357,551	1,880,495	1,317,033
Rest of Americas .....	858,379	489,181	851,513	504,808	135,184	104,368	421,331	310,244
Total Americas .....	3,926,872	2,594,754	3,925,262	2,558,115	648,731	461,919	2,301,826	1,627,277
Asia-Pacific .....	739,690	785,185	705,837	745,734	(24,971)	98,936	576,860	583,480
Total .....	8,465,294	6,017,466	8,465,294	6,017,466	1,920,222	1,666,936	6,296,778	5,070,260

(1) Europe/Middle East/Africa

	Property, plant and equipment		Capital expenditures		Depreciation		Employees	
	1998	1997	1998	1997	1998	1997	1998	1997
	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)	DM (000)
Germany .....	675,074	484,855	318,343	193,242	119,647	95,829	7,679	5,516
Rest of EMEA <sup>(1)</sup> .....	255,123	187,943	112,159	153,033	47,260	30,578	3,281	1,969
Total EMEA .....	930,197	672,798	430,502	346,275	166,907	126,407	10,960	7,485
United States .....	255,952	106,928	176,276	90,657	27,185	28,648	4,463	2,906
Rest of Americas .....	30,558	29,934	17,893	21,989	15,434	10,945	1,521	879
Total Americas .....	286,510	136,862	194,169	112,646	42,619	39,593	5,984	3,785
Asia-Pacific .....	45,610	43,652	23,514	28,441	19,481	17,442	2,364	1,586
Total .....	1,262,317	853,312	648,185	487,362	229,007	183,442	19,308	12,856

(1) Europe/Middle East/Africa

In 1998, the Company allocated total sales revenues by Industry Sectors for the first time. The six major groups of Industry Sectors generated the following total sales revenues for the year ended:

	1998 DM (000)
Process Industries .....	1,910,980
Discrete Manufacturing .....	2,275,050
Fast-Moving Consumer Goods .....	1,274,163
Utilities and Communication .....	886,901
Financial Services and Service Providers .....	1,621,530
Public Sector .....	496,670
Total Sales Revenue .....	8,465,294

#### (42) Board of Directors

Subject to the adoption of the dividend resolution by the shareholders at the Annual General Shareholders' Meeting on May 6, 1999, the total annual remuneration of the Supervisory Board for the year ended December 31, 1998 will amount to DM 1,096 thousand. The total annual remuneration of the Executive Board for the year ended December 31, 1998 was DM 7,988 thousand. Interest-free loans granted to members of the Executive Board and outstanding in the amount of DM 9 thousand on December 31, 1997

were fully repaid in 1998. The pension accrual as of December 31, 1998 for former Executive Board Members was DM 2,420 thousand.

The members of the Supervisory Board and Executive Board of SAP AG are listed on pages F-34 and F-35.

## SUPERVISORY BOARD AND EXECUTIVE BOARD

### Supervisory Board

*Elected at the Annual General Shareholders' Meeting:*

**Dietmar Hopp**

Walldorf  
Chairperson  
as of May 7, 1998

**Dr. Wilhelm Haarmann**

Kronberg/Taunus  
RA WP StB HAARMANN,  
HEMMELRATH & PARTNER  
Frankfurt am Main

**Dr. Heinrich Hornef**

Weinheim  
until May 7, 1998

**Klaus-Dieter Laidig**

Böblingen

**Hartmut Mehdorn**

Heidelberg  
Chairman of the Executive Board of Heidelberger  
Druckmaschinen AG  
Heidelberg  
as of May 7, 1998

**Botho von Portatius**

Cologne  
until May 7, 1998

**Prof. Dr. August-Wilhelm Scheer**

Saarbrücken  
Director of the Institute for Information Systems  
Saarland University  
Saarbrücken  
until May 7, 1998

**Dr. Dieter Spöri**

Backnang  
DaimlerChrysler  
Berlin  
as of May 7, 1998

**Dr. Bernd Thiemann**

Kronberg/Taunus  
Chairman of the Executive Board of DG BANK  
Frankfurt am Main  
until May 7, 1998

**Dr. h. c. Klaus Tschira**

Heidelberg  
as of May 7, 1998

*Elected by the employees:*

**Helga Classen**

St. Leon-Rot  
Deputy Chairperson

**Willi Burbach**

Ratingen

**Rüdiger Gerber**

Bad Schönborn  
until May 7, 1998

**Bernhard Koller**

Walldorf

**Dr. Gerhard Maier**

Wiesloch

**Dr. Barbara Schennerlein**

Dresden  
as of May 7, 1998

**Alfred Simon**

Malsch

## **Executive Board**

### **Prof. Dr. h. c. Hasso Plattner**

Schriesheim/Altenbach  
Co-speaker and CEO  
Basis, Technology, and Industry  
Solutions Development, Marketing, Corporate  
Communications,  
Americas Region

### **Prof. Dr. Henning Kagermann**

Hockenheim  
Co-speaker and CEO  
Financials, Human Resources, and Industry  
Solutions Development Administration,  
Europe / Middle East / Africa

### **Dr. Claus E. Heinrich**

Walldorf  
Logistics and Industry Solutions Development  
Human Resources

### **Dietmar Hopp**

Walldorf  
Administration, Sales and Consulting Germany  
Corporate Communications  
until May 7, 1998

### **Gerhard Oswald**

Wiesloch  
R/3 Corporate Services,  
IT Infrastructure

### **Dr. h. c. Klaus Tschira**

Heidelberg  
Human Resources  
Development  
until May 7, 1998

### **Paul Wahl**

Wilhelmsfeld  
SAP America, Inc. (CEO)  
Marketing  
until September 3, 1998

### **Dr. Peter Zencke**

Weinheim  
Logistics and Industry Solutions Development  
Asia-Pacific

## **Extended Management Board**

### **Michael Gioja**

Stutensee  
Human Resources Development  
until October 27, 1998

### **Karl-Heinz Hess**

Stutensee  
Basis Development

### **Dieter Matheis**

Mühlhausen  
Chief Financial Officer

### **Kevin S. McKay**

Doylestown, PA, U.S.A.  
SAP America, Inc. (CEO)  
as of September 3, 1998

### **Paul Neugart**

Hockenheim  
Head of Sales in Germany  
until June 30, 1998

**INVESTMENTS OF SAP AKTIENGESELLSCHAFT  
AND THE COMPANY**

As of December 31, 1998, figures in DM(000), except for % and  
employee information

<u>Name and location of company</u>	<u>Ownership %</u>	<u>Net income/ (loss)<sup>(1)</sup> for 1998</u>	<u>Equity 12/31/1998<sup>(1)</sup></u>	<u>Number of employees as of 12/31/1998<sup>(2)</sup></u>
<b>I. AFFILIATED COMPANIES</b>				
<b>GERMANY</b>				
SAP Retail Solutions GmbH & Co., St. Ingbert <sup>(5)</sup> . . . . .	100	16,853	37,198	491
SRS Software-und Systemhaus Dresden GmbH, Dresden . .	50	7,718	14,816	382
SAP Systems Integration GmbH, Alsbach-Haehnlein . . . .	60	5,654	32,965	214
SAP Labs GmbH Mannheim <sup>(4)</sup> . . . . .	80.2	2,151	2,455	226
Steeb Anwendungssysteme GmbH, Abstatt . . . . .	100	3,732	9,498	125
AsseT GmbH Assessment & Training Technologies, Friedrichshafen . . . . .	75	728	1,897	16
SAP Retail Solutions Beteiligungsgesellschaft mbH, Walldorf . . . . .	100	(2)	48	—
DACOS Software Holding GmbH, St. Ingbert . . . . .	100	(3,505)	10,324	—
<b>REST OF EUROPE, MIDDLE EAST AND AFRICA</b>				
SAP (UK) Limited, Feltham/UK . . . . .	100	17,075	134,966	500
SAP France Systèmes Applications et Progiciels S.A., Paris/France . . . . .	100	14,432	72,248	415
SAP (Schweiz) AG Systeme, Anwendungen und Produkte, Biel/Switzerland . . . . .	100	48,052	220,768	252
SAP Svenska Aktiebolag, Stockholm/Sweden . . . . .	100	39,521	66,148	231
SAP Nederland B.V., 's Hertogenbosch/The Netherlands . .	100	26,109	60,062	269
S.A.P., Italia Sistemi Applicazioni Prodotti in Data Processing S.p.A., Milan/Italy . . . . .	100	22,192	43,337	177
<b>SAP ESPANA Y PORTUGAL SISTEMAS APLICACIONES Y PRODUCTOS EN LA INFORMATICA, S.A., Madrid/Spain . . . . .</b>				
SAP Danmark A/S, Brøndby/Denmark . . . . .	100	11,477	49,302	241
SAP Österreich, Systeme, Anwendungen und Produkte in der Datenverarbeitung Gesellschaft m.b.H., Vienna/ Austria . . . . .	100	17,361	53,174	178
NV SAP BELGIUM SA, Brussels/Belgium . . . . .	100	15,107	38,206	143
<b>SYSTEMS APPLICATIONS PRODUCTS (SOUTHERN AFRICA) (PTY) LTD, Woodmead/South Africa . . . . .</b>				
SAP CR, spol s.r.o., Prague/Czech Republic . . . . .	100	2,163	18,574	124
SAP Polska Sp. z.o.o., Warsaw/Poland . . . . .	100	3,311	9,460	83
SAP Hungary Rendszerek, Alkalmazások es Termekek az Adatfeldolgozasban Informatikai Kft., Budapest/Hungary	100	6,076	7,989	47
SAP Consult C.I.S., Moscow/Russia . . . . .	100	445	1,090	86
SAP Slovensko s.r.o. Bratislava/Slovakia <sup>(4)</sup> . . . . .	100	27	1,812	38
SAP Retail Solutions Nederland B.V., 's Hertogenbosch/ The Netherlands . . . . .	100	170	393	—
SAP Service and Support Center (Ireland) Limited, Dublin/Ireland . . . . .	100	1,410	3,502	45
OFEK-tech Software Industrie Ltd., Tel Aviv/Israel <sup>(3)</sup> . . . . .	58	783	2,004	33
K&V Information Systems Ltd i.L., Buckinghamshire/UK <sup>(3),(5)</sup> . . . . .	100	(686)	296	—

<u>Name and location of company</u>	<u>Ownership %</u>	<u>Net income/ (loss)<sup>(1)</sup> for 1998</u>	<u>Equity 12/31/1998<sup>(1)</sup></u>	<u>Number of employees as of 12/31/1998<sup>(2)</sup></u>
SAP Labs France S.A. Paris/France <sup>(4)</sup> .....	100	(251)	3,477	8
DACOS Software S.A., Vaumarcus (NE)/Switzerland <sup>(3),(5)</sup> .....	52	(179)	435	1
SAP Ireland Ltd., Dublin/Ireland .....	100	4,020	70,012	6
<b>AMERICAS</b>				
SAP America, Inc., Newton Square/USA .....	100	302,607	947,878	3,823
SAP Canada, Applications and Products in Data Processing Inc., North York./Canada .....	100	5,153	48,180	571
<b>SAP BRASIL COMERCIO E REPRESENTACOES</b>				
LTDA., Sao Paulo/Brazil .....	100	25,768	41,697	405
SAP Labs, Inc., Palo Alto, CA/USA <sup>(5)</sup> .....	100	4,060	13,930	433
SAP MEXICO S.A. DE C.V., Mexico City/Mexico .....	100	26,453	34,917	222
SAP America Public Sector and Education, Inc., Washington, DC/USA .....	100	(6,463)	(6,222)	172
SAP Andina y del Caribe S.A, Caracas/Venezuela .....	100	11,920	14,453	160
SAP ARGENTINA S.A., Buenos Aires/Argentina .....	100	16,013	31,115	163
SAP International, Inc., Miami, FL/USA <sup>(5)</sup> .....	100	(1,940)	(1,411)	35
SAP Investment Inc., Wilmington, DE/USA <sup>(3),(5)</sup> .....	100	23	86,673	—
<b>ASIA-PACIFIC</b>				
SAP AUSTRALIA PTY LTD, Sydney/Australia .....	100	16,899	52,296	344
SAP Japan Co., Ltd., Tokyo/Japan .....	100	(103,898)	(1,521)	921
SAP Asia Pte. Ltd., Singapore .....	100	(1,537)	10,185	269
<b>SAP India Systems, Applications and Products in Data Processing Private Limited, Bangalore/India<sup>(5)</sup> .....</b>				
SAP (Malaysia) Sdn Bhd, Kuala Lumpur/Malaysia .....	100	2,035	7,814	74
SAP Taiwan Co. Ltd., Taipei/Taiwan .....	100	6,679	11,499	73
SAP New Zealand Limited, Auckland/New Zealand .....	100	4,843	11,792	41
SAP Korea Limited, Seoul/Korea .....	100	4,973	18,316	100
SAP (Beijing) Software System Co., Ltd., Beijing/China .....	100	(405)	5,042	160
<b>SAP HONG KONG CO., LIMITED, Taikoo Shing/Hong Kong .....</b>				
SAP SYSTEMS, APPLICATIONS AND PRODUCTS IN DATA PROCESSING (THAILAND) LTD., Bangkok/Thailand .....	100	2,603	7,059	50
<b>SAP Philippines SYSTEMS, APPLICATIONS AND PRODUCTS IN DATA PROCESSING, Inc., Makati City/Philippines .....</b>				
SAP Labs India Pvt. Ltd. Bangalore/India <sup>(4)</sup> .....	100	257	1,866	120
PT SAP Asia, Jakarta/Indonesia .....	100	(1,703)	(1,071)	13
SAP India (Holding) Pte. Ltd., Singapore .....	100	(8)	712	0

(1) These figures do not include eliminations resulting from consolidation and therefore do not reflect the contribution of these companies included in the consolidated financial statements.

(2) As of December 31, 1998, including managing directors.

(3) Not consolidated according to Article 296(2) of the German Commercial Code.

(4) Consolidated for the first time in 1998

(5) Represents a wholly owned entity of a subsidiary

<u>Name and location of company</u>	<u>Ownership %</u>	<u>Net income/ (loss)<sup>(1)</sup> for 1998</u>	<u>Equity 12/31/1998<sup>(1)</sup></u>	<u>Number of employees as of 12/31/1998<sup>(2)</sup></u>
<b>II. ASSOCIATED COMPANIES</b>				
IDS Prof. Scheer Gesellschaft für integrierte Datenverarbeitungssysteme mbH Saarbrücken/Germany .....	25.2	6,519	62,871	575
SAP Solutions GmbH, Freiberg/Germany	40	10,390	13,521	217
Schmidt, Vogel und Partner Consult Gesellschaft für Organisation und Managementberatung mbH, Bielefeld/Germany	25.2	858	3,827	241
Pandesic LLC, Santa Clara, California/USA <sup>(3)</sup> .....	50	(72,056)	2,447	143

(1) These figures do not include eliminations resulting from consolidation and therefore do not reflect the contribution of these companies included in the consolidated financial statements.

(2) As of December 31, 1998, including managing directors.

(3) Consolidated for the first time in 1998.

**Schedule II**  
**Valuation and Qualifying Accounts and Reserves**  
**Years Ended December 31, 1998, 1997 and 1996**  
**DM (000)**

<u>Description</u>	<u>Beginning Balance</u>	<u>Additions</u>		<u>Other Deductions</u>	<u>Ending Balance</u>
		<u>Charged to costs and expenses</u>	<u>Write-offs</u>		
Allowances for Doubtful Accounts:					
Year ended December 31, 1996 . . . . .	23,557	31,739	5,000	—	50,296
Year ended December 31, 1997 . . . . .	50,296	51,266	9,200	—	92,362
Year ended December 31, 1998 . . . . .	92,362	110,978	46,139	—	157,201

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