

A Publication from INPUT's Market Analysis Program

# U.S. Application Solutions Market Forecast, 1990-1995

Note: This Research Bulletin is published as part of INPUT's U.S. Market Analysis Program. The material that follows is drawn from Chapter IV of INPUT's annual assessment of the applications software products market and turnkey systems market within the United States. The full report, *U.S. Application Solutions Market, 1990-1995*, will be available in February, 1991. Please note that in prior years INPUT has published its forecasts of applications software products and turnkey systems in two different reports. Starting in 1990 the two market sectors are being addressed together because of the similarities of the factors and trends that impact their growth.

## Application Solutions Market Overview

A number of economic, technological and market factors are converging which, over the next couple of years, will negatively impact growth of the overall application solutions market. By the middle of the forecast period, growth of applications software products will pick up. Growth in user expenditures for turnkey systems will remain sluggish. The applications software products portion of turnkey systems will remain healthy; the hardware component, however, will continue its slide.

User expenditures on applications software products grew 12% in 1990. The growth rate will pick up over the five-year period for an overall CAGR of 14%. By 1995, user

expenditures on applications software products will reach \$34.7 billion. These figures are shown in Exhibit 1.

The market for turnkey systems is about half of the market for applications software. In 1989, \$9.5 billion was spent on turnkey systems. The market grew only 9% in 1990, and is forecasted to grow only 8% compounded annually, to reach \$15.4 billion in 1995, as shown in Exhibit 2.

These moderate-to-low CAGRs compare to the previous five-year (1985-1989) CAGRs of 23% for applications software products and 11% for turnkey systems. The primary driver was the continuing strong growth in unit shipments of mainframes, minicomputers, workstations, and personal computers. For the next five years, however, growth of hardware platforms will be moderate to slow. Mainframe and minicomputer unit shipments are expected to increase only about 3%-5% per year and workstation/PC growth will be in the 10% to 15% range rather than the 25%-30% growth experienced previously.

In addition to declining hardware unit shipments, other key forces that impact growth of applications software products and turnkey systems are:



Exhibit 1

### U.S. Applications Software Products Market 1989-1995

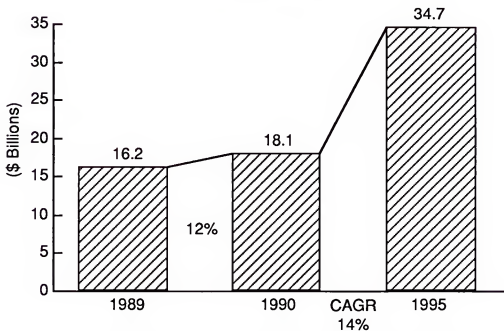
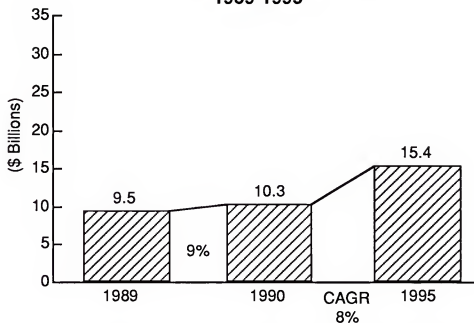


Exhibit 2

### U.S. Turnkey Systems Market 1989-1995





- *Slower economic growth over the next five years*—The economic assumptions used by INPUT in its 1990 forecasts reflect significantly reduced overall economic growth in the near term, followed by modest steady growth through 1995. The nominal GNP considered in the 1990 forecasts is for much lower growth in 1990 (5.4% versus a previously projected 7.7% in INPUT's 1989 reports) and no gain in 1991 (5.4% versus 7.8%). These economic assumptions were published by INPUT in October. Since that time, the economy may have worsened.

The impact of a slowed economy on applications software products will be modest; prepackaged solutions are favored as the trend to outsource all but key "crown jewel" IS projects continues. On the other hand, user expenditures on turnkey systems are curtailed because in an economic downturn, large hardware purchases—bundled or unbundled—are delayed. Additionally, significant turnkey activity is in the manufacturing industry sectors which, when hit by recession, restrict capital expenditures.

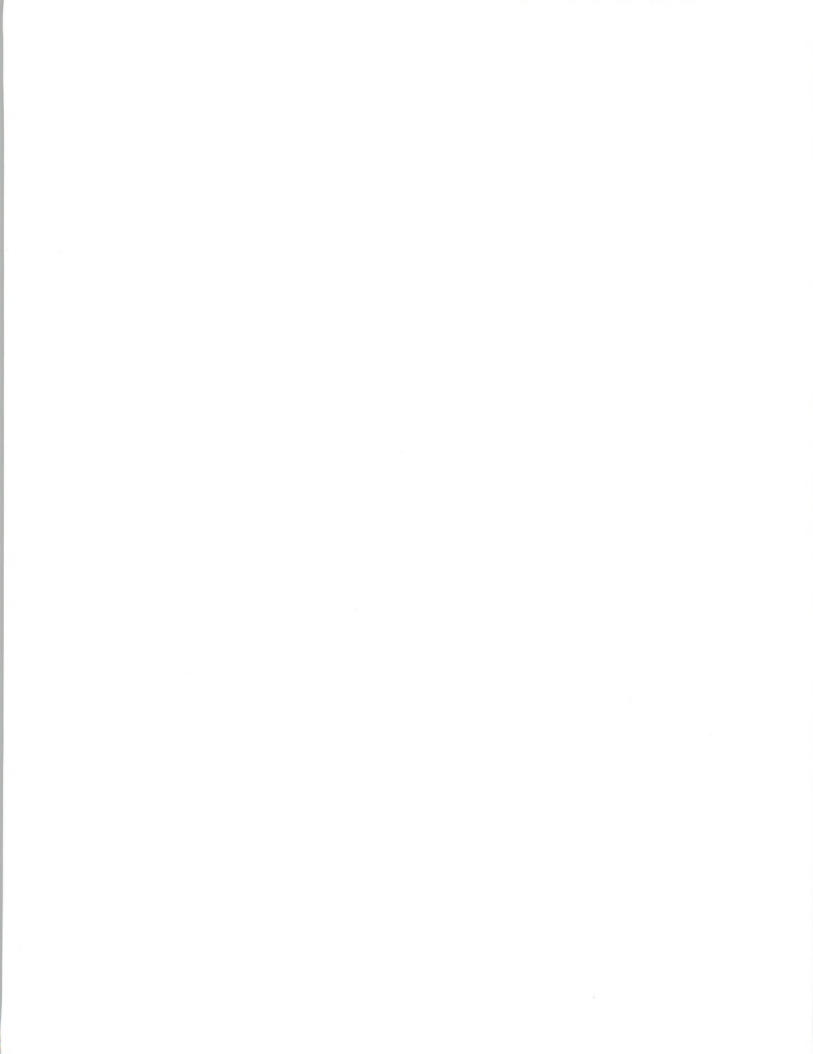
- *More powerful desktop systems* — Growth in the low-end PC market has slowed; the greatest growth is in more-powerful 386- and 486-based products and workstations. Sales of higher-end personal computers and workstations will drive a higher investment in applications software products per computer. The impact should begin to be felt to a greater degree by 1992.

Position impacts of OS/2 and more-powerful PCs had previously been anticipated by 1990. The hardware trend is present, but the expected systems and applications software products sector gains are lagging.

The current economic downturn is causing hardware cuts, especially at the PC and workstation level. Thus, in the

short-term, unit shipments are curtailed, but over the long term their presence will have a significant positive impact on applications software expenditures. A few years ago, only the biggest companies could afford this capacity. Now the \$50-million-and-under company can afford large-scale automation, which opens up new untapped markets for applications solutions.

- *Continuing decline in hardware prices*—Turnkey systems vendors have been plagued with declining hardware prices and profit margins for years. As personal computers became available at lower prices and through alternative distribution channels, the advantages of a turnkey solution were eroded. Turnkey vendors have historically sold minicomputer systems, whose prices remained high and relatively stable until PCs eroded their popularity. The use of workstations and UNIX in commercial and business areas is spreading; but as use spreads, workstation pricing will erode also, again leaving the turnkey vendor with low margins. Many turnkey vendors and VARs are therefore minimizing or exiting the turnkey business in favor of applications software products and related services, thereby joining the applications software and/or professional services delivery mode.
- *Architectures and standards*—Initially, the movement toward client-server architectures and standards—including vendor standards such as UNIX and IBM's SAA—will diminish the need for new applications software products and turnkey systems. The reasons are that new platforms and systems software products are still in the development stages and a full migration from the user standpoint will take a minimum of several years to reach full swing. These platforms need to be in place before applications software products can be purchased. In the early part of the



forecast period, a difficult selling environment will exist until the new technologies are more entrenched.

- **Customer indigestion**—Because of the transitory nature of architectures and standards, customers are developing a temporarily cautious attitude. In the meantime, vendors need to provide well-informed sales forces, extensive education and training capabilities, and an all-encompassing sales approach. Sales will not be made to technical IS managers alone; now, as application solutions become integrated, the sale also encompasses operating executives and end-user departments.

On the brighter side, a number of areas will offer new opportunities for growth—now as well as in the future. Several opportunities are discussed below.

- **Customization and integration services**—These two areas continue to offer increasingly lucrative opportunities for application solutions vendors. As purchases of prepackaged solutions continue to grow in favor of complete in-house development, these two professional services areas will experience healthy growth.

**Applications development technology**—Expenditures growth for applications software products and turnkey systems will be enhanced by current trends in applications development tools. 4GL, CASE, and RDBMS tools not only enhance vendors' internal software development efforts, but also provide added customization capabilities for increased revenues.

Another application development tool—the graphical user interface (GUI) will promote expenditures of application solutions. The development of friendlier, graphics-based user interfaces, including multitasking capability, to the more general end-user computing environment will expand the number of applications utilized per desktop platform. GUIs

have also made UNIX easier to use, and more development work is underway on UNIX-based application solutions.

- **Globalization**—Applications software products that deal with the increasingly integrated worldwide markets for larger corporations create a whole new sector for application solution vendors. Applications addressing customs issues, currency translation and other needs offer product opportunities on an international scale.

## Applications Software Products by Platform Size

As shown in Exhibit 3, more is spent on workstation/PC-based applications software products than on mainframe and minicomputer-based products and, as expected, user expenditures for this platform size are expected to grow twice as fast as for the other two platform sizes.

Several markets provide particularly strong growth opportunities, including the telecommunications and education and training sectors. Telecommunications industry applications have traditionally been developed internally, but since deregulation, this industry is looking increasingly to outside providers. Another strong area for applications software products and turnkey systems is the education and training cross-industry sector. The relatively small expenditures in this area and the fact that technology-based education and training are less expensive and more convenient than instructor-led training are driving forces in favor of its more widespread use.

## Turnkey Systems by Submode

Rather than analyze turnkey systems expenditures by platform size, INPUT analyzes expenditures by equipment, software, and professional services, as shown in Exhibit 4.

Equipment is the slowest growing submode, for the reasons cited above.

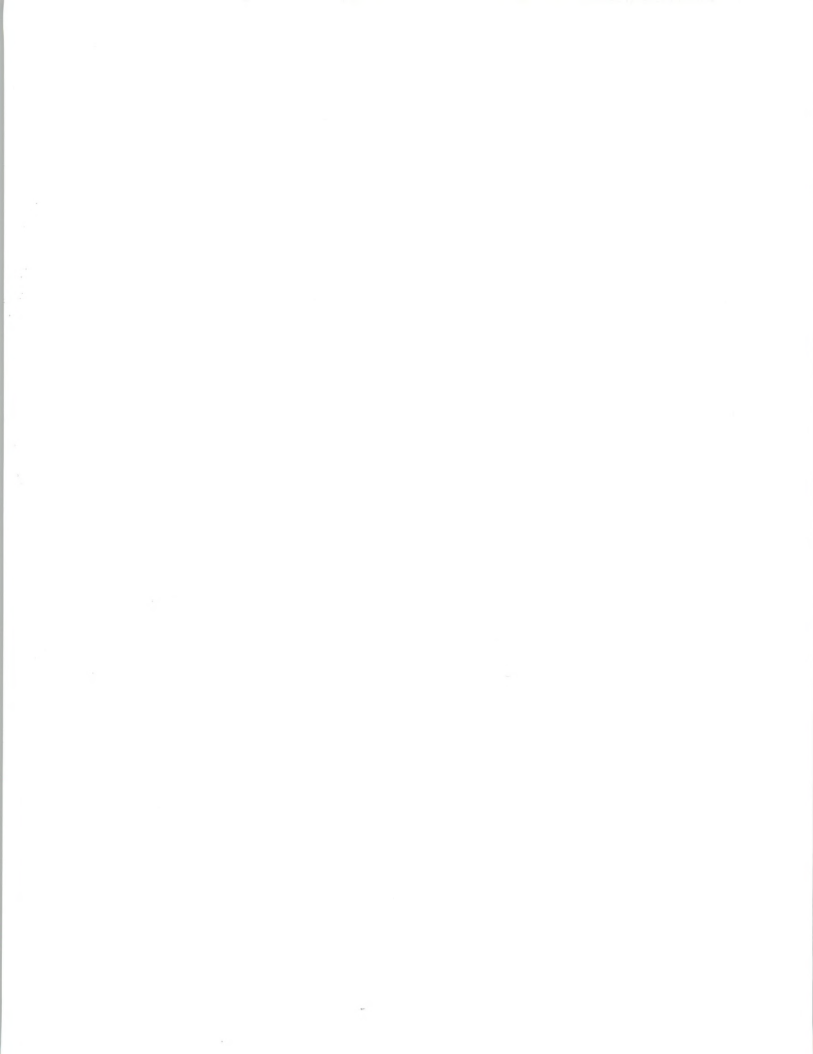
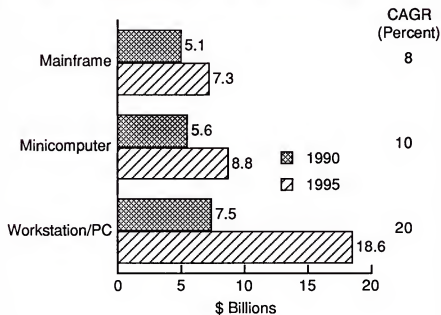




Exhibit 3

### Applications Software Products User Expenditures by Platform Size, 1990-1995

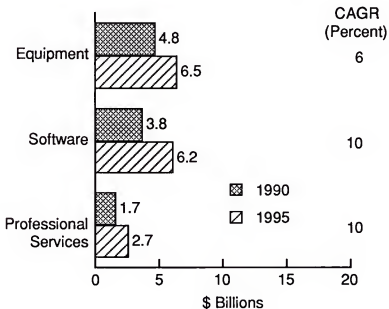


Even though new technologies such as voice processing, imaging, and CD ROM are growth opportunities for turnkey vendors, the added expenditures on these products will not be realized until 1995 and beyond.

User expenditures on software and professional services will both grow at 10% compounded annually through 1995. By 1995, software will almost equal expenditures on equipment. Of the software total, application software will account for the bulk of expenditures. Systems software sales are limited to operating systems and, to a much lesser extent, bundled application development tools such as RDBMSs.

Exhibit 4

### Turnkey Systems Products User Expenditures by Submode, 1990-1995



By 1995, professional services will still represent a relatively modest \$2.7 billion market for turnkey systems vendors. It will remain small because many turnkey vendors and VARs will opt to form alliances with professional services firms and systems integrators and to focus on what they do best—specialized applications software products—as the key differentiating value they provide to the marketplace.

For a complete analysis, look for INPUT's upcoming report, *U.S. Application Solutions Market, 1990-1995*.



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