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Research Summary

Turnkey Systems Opportunities— Western Europe, 1989-1994



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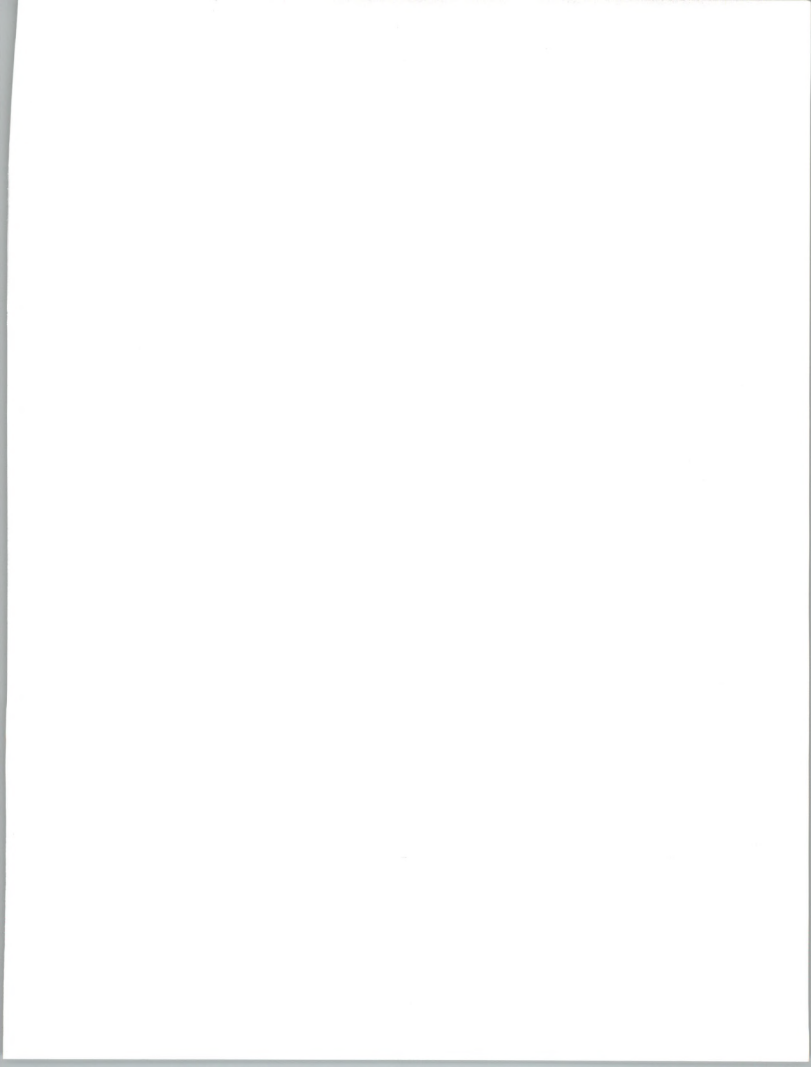
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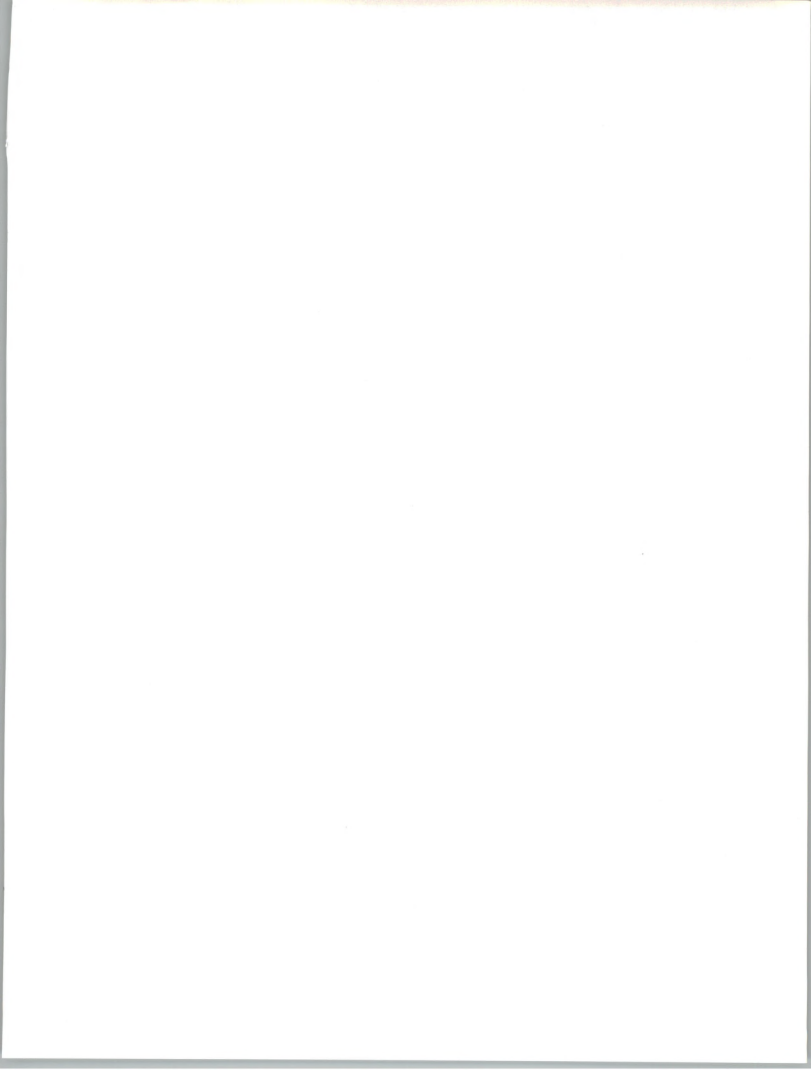
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Abstract

This report analyses the turnkey systems market in Western Europe and its growth potential over the period 1989-1994.

INPUT defines the turnkey delivery mode as those total solutions comprising equipment and standard software which are sold and supported by a single vendor. In many instances, vendors also provide a limited amount of customization to meet the specific needs of clients.

INPUT's report covers the complete spectrum of turnkey systems sold by both equipment vendors and independent value-added resellers (VARs) who take title to the equipment in selling and supporting their systems. Independent software developers often compete directly with turnkey systems vendors by selling their software products and professional services as a package, but without taking title to the equipment. The report also discusses this alternative delivery mode for VARs.

A number of key issues are affecting the turnkey market—the growing significance of UNIX, the effect of declining equipment prices, and the evolution of a pan-European market during the 1990s. The report looks at what impact these issues will have on turnkey systems and, in particular, how they might separately affect the attitudes of equipment vendors and VARs to the turnkey delivery mode.

Leading turnkey vendors are identified, not just for the overall Western European market, but also for the major country markets—West Germany, the U.K., France and Italy. Profiles of four major turnkey vendors are used to illustrate different vendor development strategies.

Recommendations are made to vendors seeking to develop turnkey systems for the 1990s. In addition, specific sales skills are identified for the European market.

Table 1. Mean (SD) age, height, weight, and body mass index (BMI) of the 100 children in the study

Measure	Mean (SD)
Age (years)	10.5 (0.5)
Height (cm)	145.5 (10.5)
Weight (kg)	38.5 (10.5)
BMI (kg m ⁻²)	18.5 (3.5)

children were asked to perform a series of tasks designed to assess their ability to perform a range of physical activities. The tasks were performed in a sequence and the order of the tasks was randomized.

The first task was a 100 m sprint. The children were asked to run as fast as they could for 100 m. The time taken to complete the sprint was recorded. The second task was a 100 m walk. The children were asked to walk as fast as they could for 100 m. The time taken to complete the walk was recorded.

The third task was a 100 m jog. The children were asked to jog as fast as they could for 100 m. The time taken to complete the jog was recorded. The fourth task was a 100 m run. The children were asked to run as fast as they could for 100 m. The time taken to complete the run was recorded.

The fifth task was a 100 m walk-jog. The children were asked to walk-jog as fast as they could for 100 m. The time taken to complete the walk-jog was recorded. The sixth task was a 100 m run-jog. The children were asked to run-jog as fast as they could for 100 m. The time taken to complete the run-jog was recorded.

The seventh task was a 100 m walk-run. The children were asked to walk-run as fast as they could for 100 m. The time taken to complete the walk-run was recorded. The eighth task was a 100 m run-walk. The children were asked to run-walk as fast as they could for 100 m. The time taken to complete the run-walk was recorded.

The ninth task was a 100 m walk-run-jog. The children were asked to walk-run-jog as fast as they could for 100 m. The time taken to complete the walk-run-jog was recorded. The tenth task was a 100 m run-walk-jog. The children were asked to run-walk-jog as fast as they could for 100 m. The time taken to complete the run-walk-jog was recorded.

The final task was a 100 m walk-run-jog-walk. The children were asked to walk-run-jog-walk as fast as they could for 100 m. The time taken to complete the walk-run-jog-walk was recorded. The order of the tasks was randomized and the children were asked to perform each task as fast as they could.

The children were then asked to perform a series of tasks designed to assess their ability to perform a range of physical activities. The tasks were performed in a sequence and the order of the tasks was randomized.

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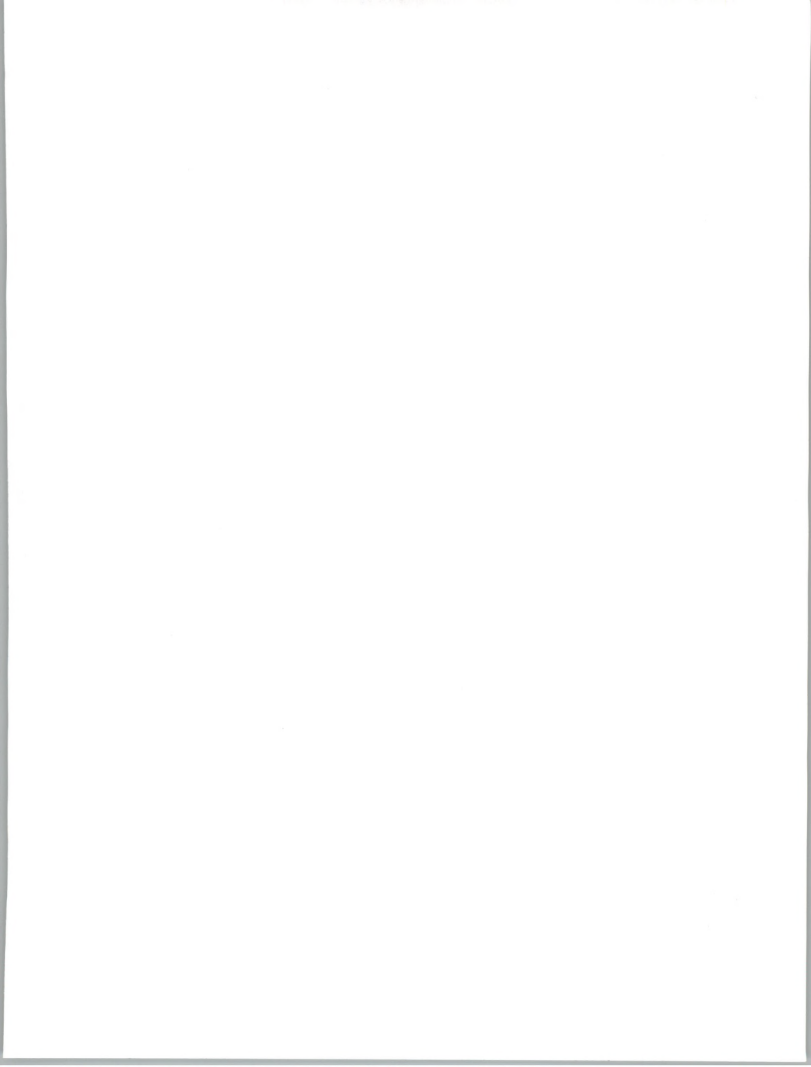
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Research Summary

This Research Summary provides a précis of the contents of INPUT's *Turnkey Systems Opportunities—Western Europe, 1989-1994* report, part of INPUT's international market analysis programme for Europe.

A

Introduction

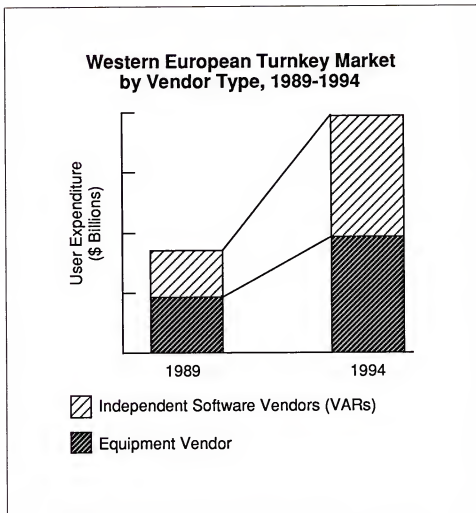
"Total solutions" is one of the phrases around the European market today. Equipment vendors are increasingly being forced to accept that the market does not want just boxes, it wants solutions. Independent software vendors, also, see that clients want a "partner" to provide them with solutions, rather than modules of software and separate professional services.

For PC and minicomputer systems, many vendors have developed standard total solutions that they sell with customization and support services. Within this highly active packaged total solutions market, the report looks at turnkey systems, that part of the computer software and services market in which standard total solutions are delivered and supported by a single vendor. Its growth over the period 1989 to 1994 is illustrated by Exhibit A.

The main objectives of this report are to:

- Create a clear picture of the current structure of the European turnkey market within the overall packaged total solutions market by different types of vendor
- Understand the major forces affecting the turnkey market and how they could change this market over the next few years
- Identify the major vendors in the turnkey market and estimate the overall size of the market and its growth potential through 1994
- Evaluate the current attitudes of vendors and end users towards turnkey systems

EXHIBIT A



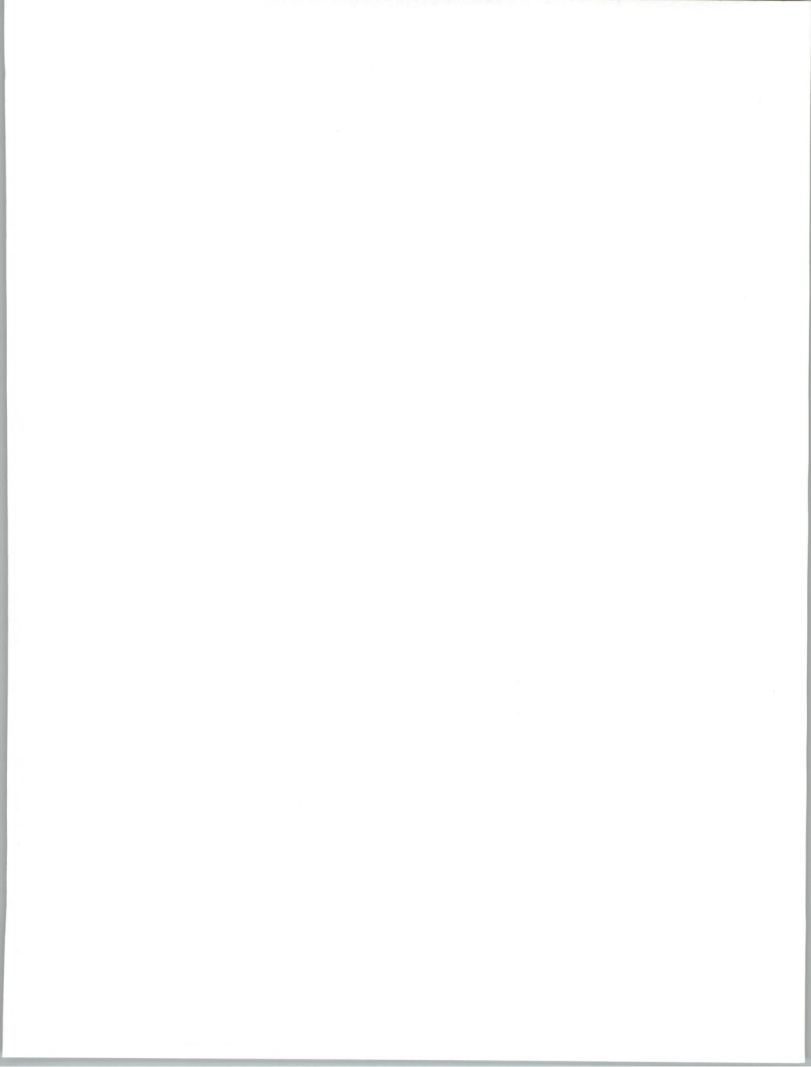
- Identify the major national differences in attitude towards turnkey systems in Europe
- Recommend possible strategies for equipment vendors and independent software vendors for the turnkey market of the 1990s

For any turnkey vendor, whether equipment vendor or independent software vendor, *Turnkey Systems Opportunities—Western Europe, 1989-1994* is an essential strategic report setting the scene on the 1990s.

B**The Changing Market**

There will be a number of major issues facing European turnkey vendors over the next few years:

- The increasing demand from users for total solutions
- Continuing downward pressure on equipment prices and margins



- Greater competition to minicomputers from PCs and workstations
- The move to open systems, notably UNIX
- The problems of how to maintain control over the direct marketing channel to end users
- The gradual evolution of a pan-European market

The report looks at these key issues from the viewpoint of both the vendor and the end user. It investigates how different types of vendors and users are likely to react to these issues, and what actions key vendors have already taken in preparation for the 1990s. Exhibit B lists the key trends seen by INPUT in the European turnkey market.

EXHIBIT B**Key Trends in the European Turnkey Market**

- Continuing pressure on Equipment prices
- Dilemma for equipment vendors trying to maintain profits and control over end-users
- European equipment vendors trying to become more pan-European
- Larger vendors, both equipment and independents looking to expand their European coverage through acquisition
- Gradual evolution of an pan-European market
- Growth of UNIX

The effect of some of these factors can already be clearly seen in the market. Certain equipment vendors using turnkey systems as their principal delivery mode have had major financial problems in recent years—notably Nixdorf and Norsk Data. The reports looks at why companies have had these problems and whether they will continue to do so into the 1990s.

UNIX is seen by many vendors as a great opportunity. However, it has limitations. Both the problems and the opportunities of UNIX for the

turnkey market are discussed. The research identifies significant variations in attitudes towards UNIX in Europe between vendors and users and between the different country markets.

The gradual evolution of a pan-European market, stimulated by the EC and its Single European Market Initiative (1992), will not have a major effect in the early 1990s for the turnkey market. However as the EC gradually breaks down the traditional fiscal, physical and social barriers within Europe, the opportunity to offer more widely distributed turnkey systems will grow. Opportunities for vendors and the attitudes of both equipment vendors and independent software vendors towards the single market are also discussed.

C

A Complex Structure

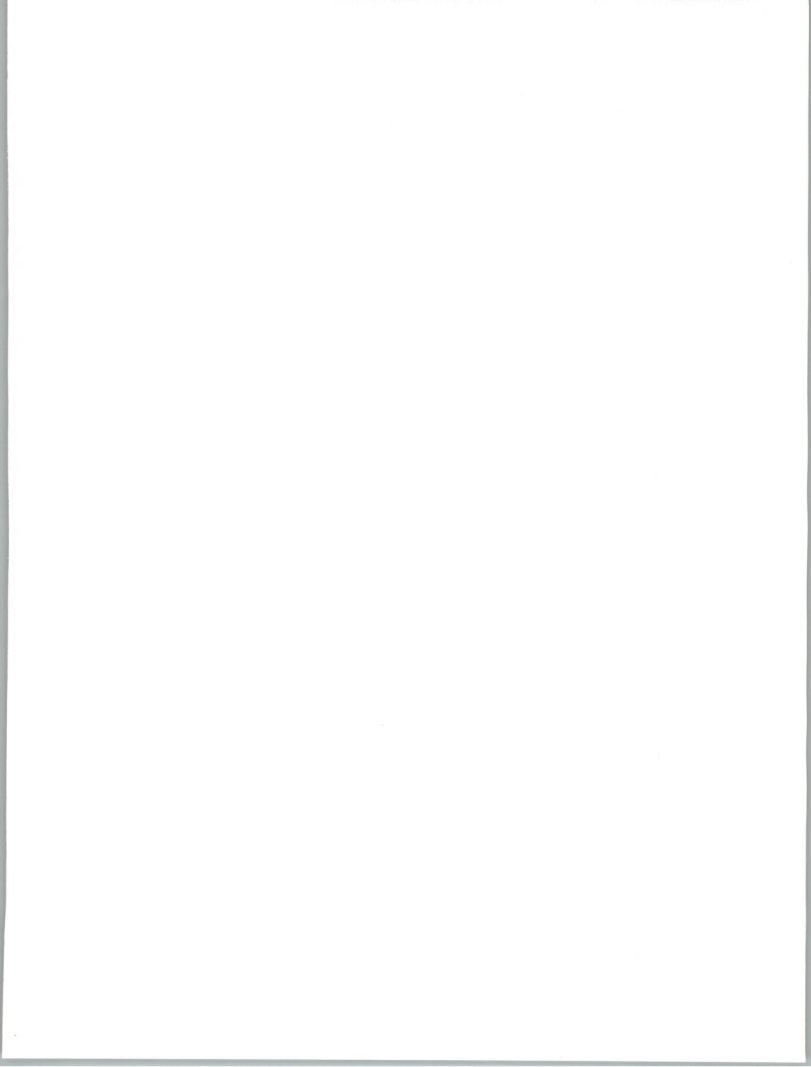
The "packaged total solutions" market is complex. The report investigates its structure and its size.

Independent software vendors can either deliver their packaged total solution as a turnkey system, where they take title to the equipment from the equipment vendor, or as a package of components. In the component delivery mode, the independent software vendor delivers the standard application, customization and other related professional services, but not the equipment and its support. This is delivered by the equipment vendor, who retains title to the equipment.

For PCs, turnkey is the prime delivery mode for independent software vendors selling packaged total solutions. For minicomputers, the component delivery mode is preferred, where the independent vendor does not take title to the equipment. In this report, these component or "software product solutions" are also discussed. The report analyses the major vendors of these two different, competing delivery modes and how they interact.

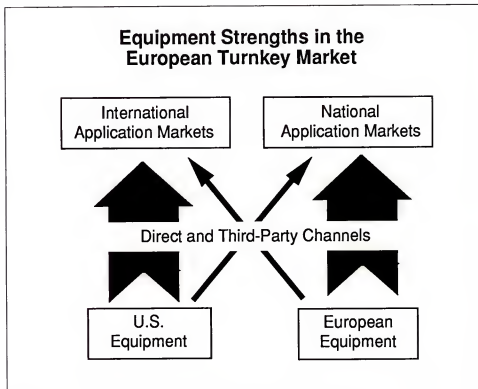
The two major types of turnkey vendor are equipment vendors, and independent software vendors. Equipment vendors generally sell their own turnkey systems, and support independent software vendors acting as value-added resellers (VARs) selling either turnkey systems or software products solutions. Most turnkey vendors develop their own application software. However, there is a noticeable trend towards licensing or acquisition of applications software.

Another important dimension of the market is the country of origin of the vendor. U.S. vendors, both equipment vendors and independents, play a very different role from the typical European turnkey vendor. Their geographic coverage is different, as is the equipment base that they use.



To fully understand the structure of this market, it is essential to understand the equipment base in Europe. This varies significantly from country to country. In the report, INPUT identifies different patterns of usage for U.S. and European equipment, as illustrated by Exhibit C. This report examines these variations, how they have affected the turnkey market in the past, and what influence they might have in the early 1990s. In particular, the strength of IBM and Digital in the minicomputer market place is discussed, and how this affects other vendors.

EXHIBIT C

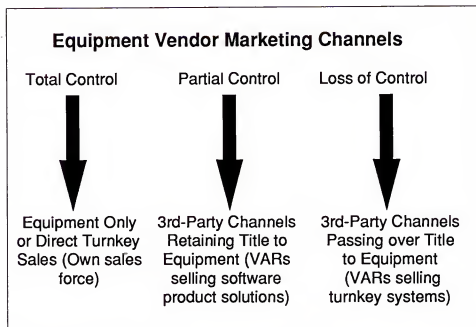
**D****Channel Strategy**

Continuing downward pressure on equipment prices and the growing competitive power of the supermicro is expected to reduce the proportion that equipment represents in the typical turnkey system. As a result, equipment vendors are looking more to application software and associated services from which to maintain their reserve streams and profits.

Most minicomputer vendors have their own turnkey systems. Many also support VARs. These equipment vendors are faced with the strategic question of which is the best marketing channel for them to use for specific equipment and particular market segments as illustrated in Exhibit D. The report looks at channel strategy for equipment vendors, their associated VAR programmes, and the resulting potential channel conflicts.



EXHIBIT D



The question of channel strategy is a major issue for equipment vendors for the 1990s. There is a possibility that equipment vendors will be forced to use their own sales forces, rather than using third-party channels. For the turnkey market this could have major repercussions. The report analyses these repercussions and discusses the effects on both the equipment vendors and the independent vendor.

E**UNIX—Threats and Opportunities**

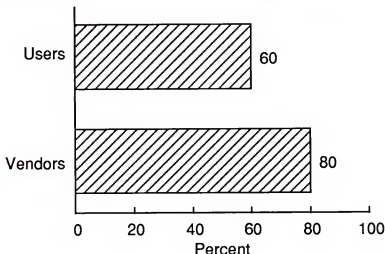
To add further to the problems facing equipment vendors, UNIX threatens to loosen their control over the minicomputer market even more by creating a layering between equipment and application software. In the PC market through MS/DOS, this layering has led to many independent software vendors selling turnkey systems.

The report looks at whether the same effect will be seen in the minicomputer market, and when it might occur. It looks at the attitudes of vendors and users toward UNIX, as Exhibit E illustrates. The report also discusses the opportunities that UNIX offers the turnkey vendor in packaging and building turnkey systems for the pan-European market.

The report exposes the opportunities that UNIX offers European equipment vendors in competing with the major U.S. equipment vendors such as IBM and Digital. It explains what actions are necessary, and how UNIX can offer the possibility to develop more complex total solutions more economically. It also discusses the considerable cost that major European turnkey vendors have had in porting their applications to UNIX.



EXHIBIT E

User and Vendor Attitudes Towards UNIX

(Above results in response to the question: "Do you see that UNIX is still a long way from being a true industry-wide standard?")

Total Sample Users: 200 Average Standard Error Users: 2.4%
Vendors: 30 Vendors: 7.5%

F**The 1990s**

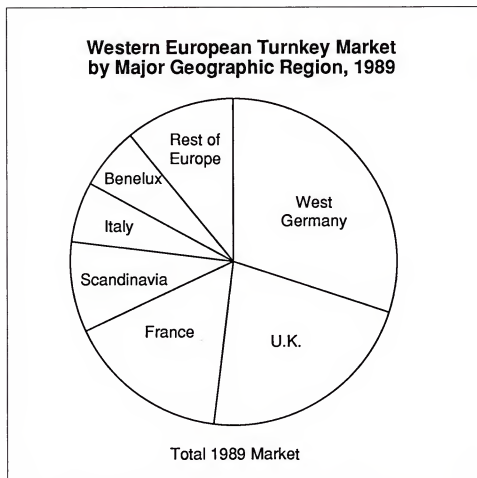
The 1990s will see significant opportunities for vendors to sell turnkey systems. The question is which vendors will succeed in grasping them and in which country. As Exhibit F illustrates the size of the market for turnkey systems varies significantly from country to country throughout Europe. The report looks at the trends that are developing, and forecasts how equipment vendors and independent software vendors are likely to react in the 1990s.

The report discusses the effect of the gradual evolution of a pan-European market on different types and sizes of vendor and on different market sectors. For some vendors, the move towards a more unified market in Europe is seen as an opportunity, for others a threat. Recommendations are made for different types of vendors and their sales forces for the 1990s.



Just as the 1980s saw major changes in the PC market, the 1990s could see the same happening in the minicomputer market. If such changes occur in the turnkey market, control over specific areas will be crucial to the success of specific vendors. This report aims to identify what the key issues will be for the 1990s, and what vendors should do in preparation.

EXHIBIT F



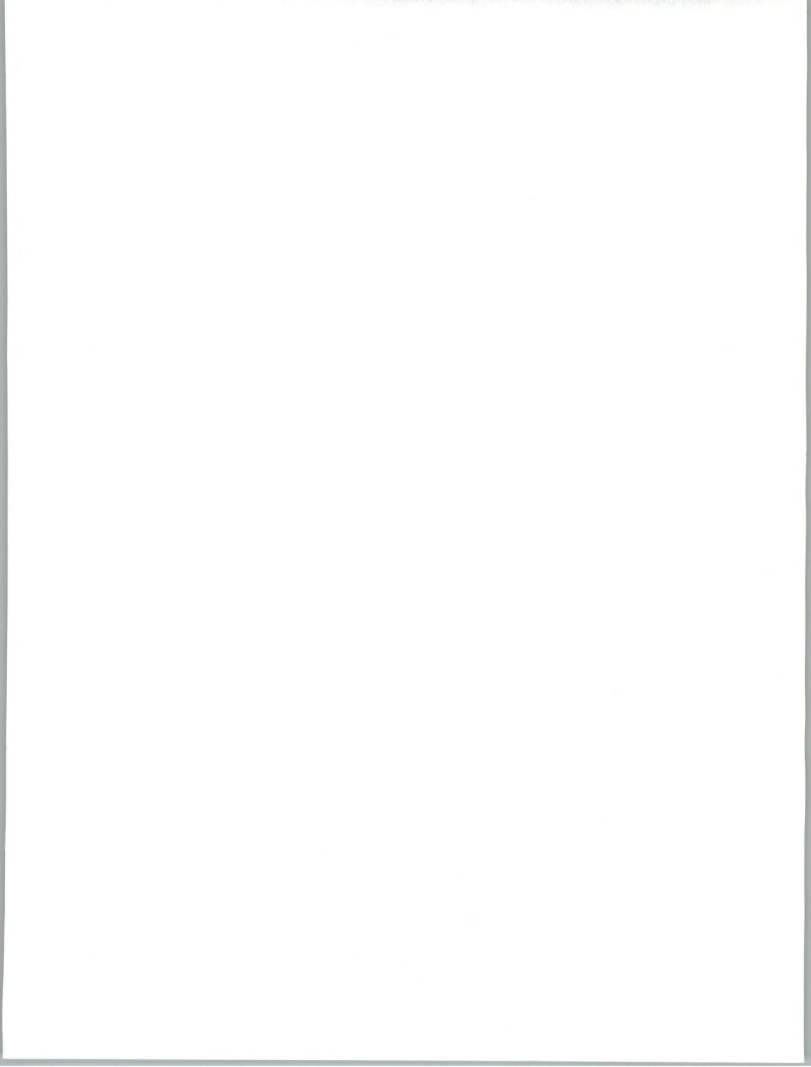


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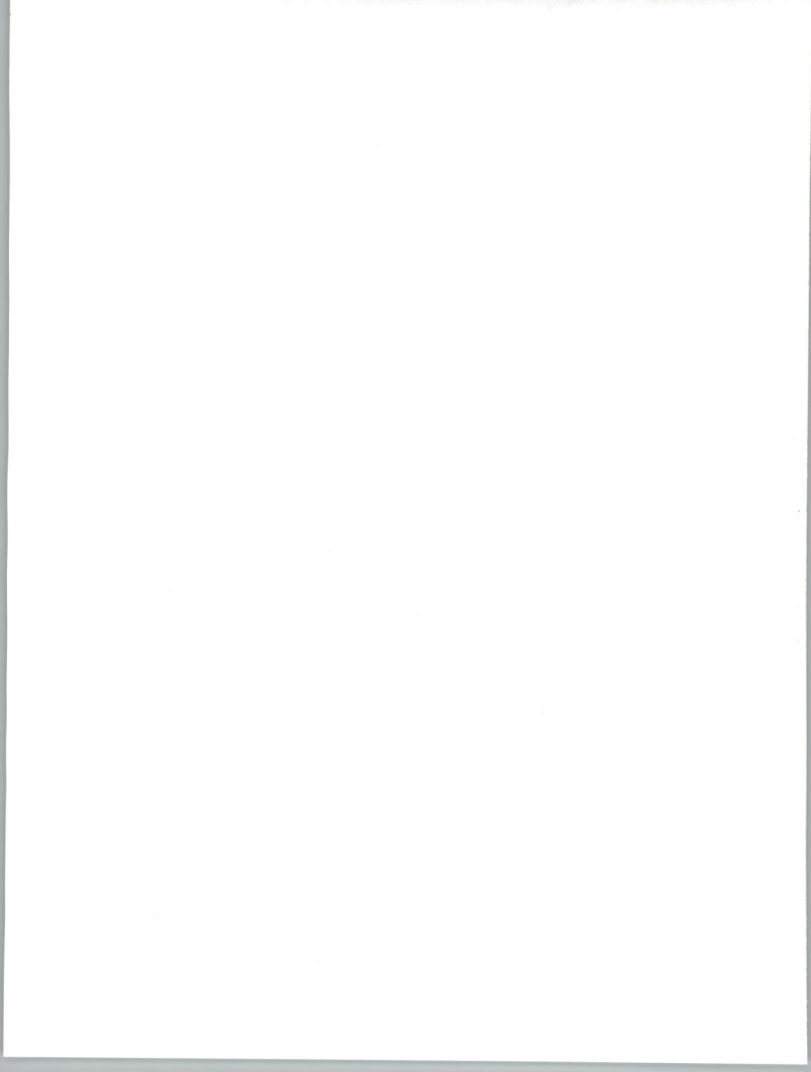
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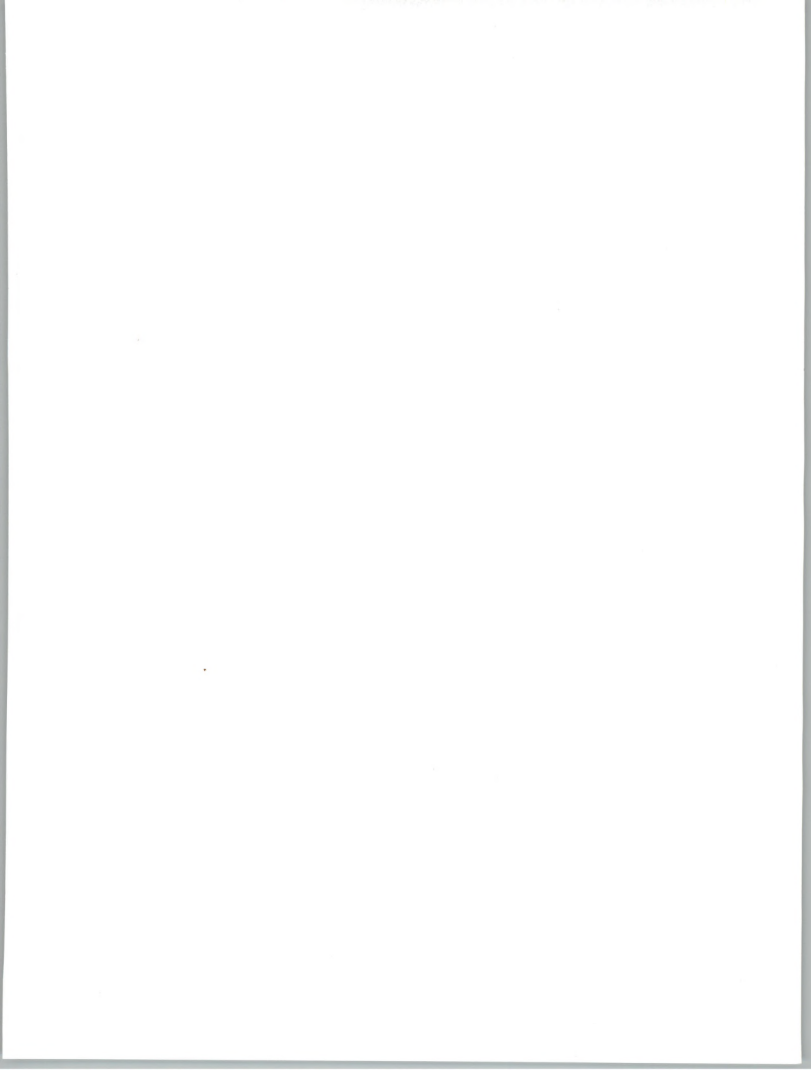
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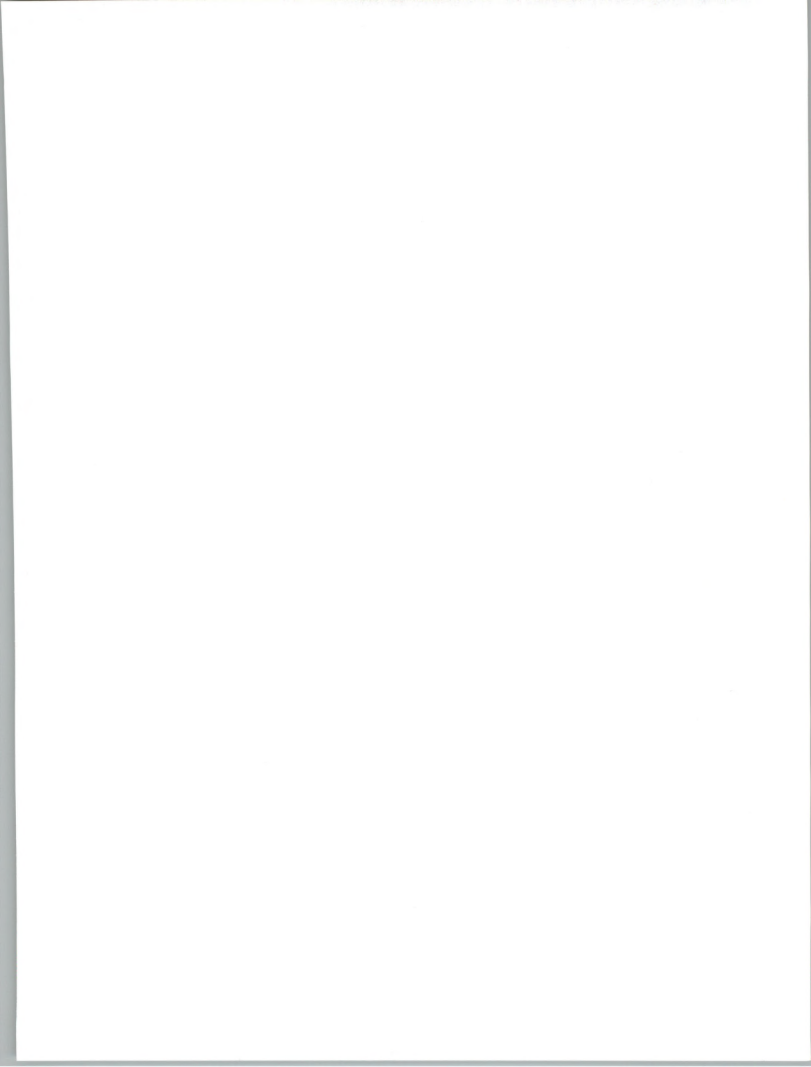
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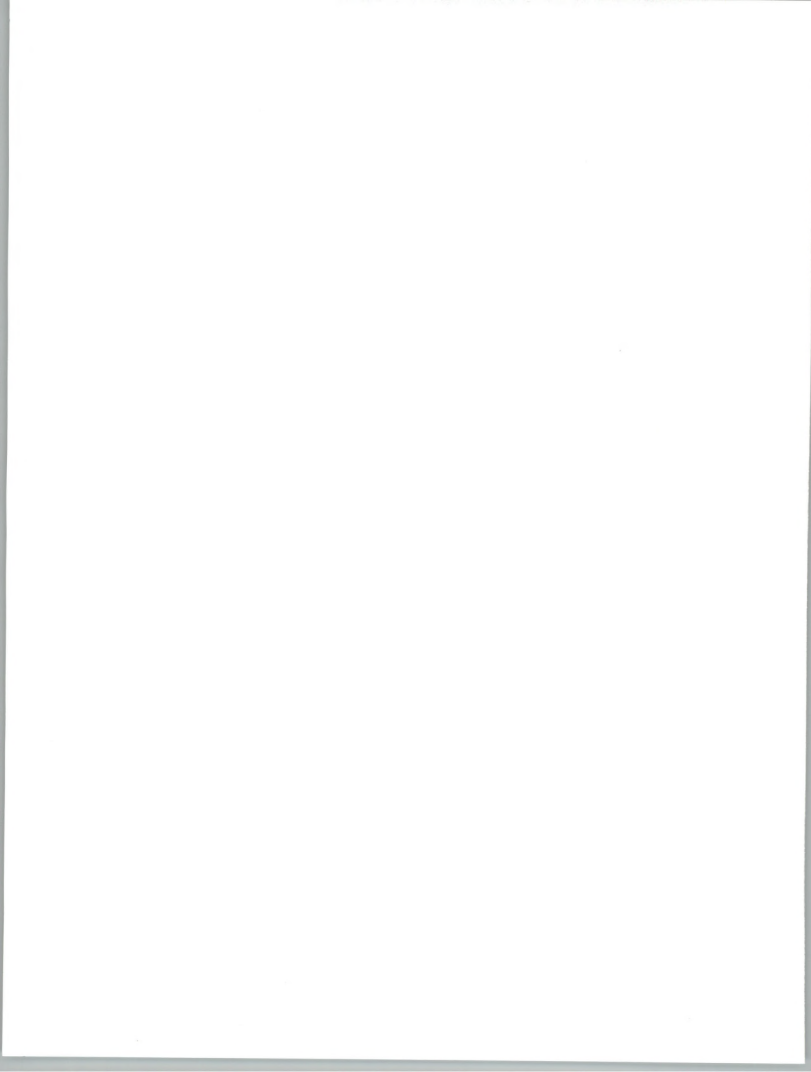
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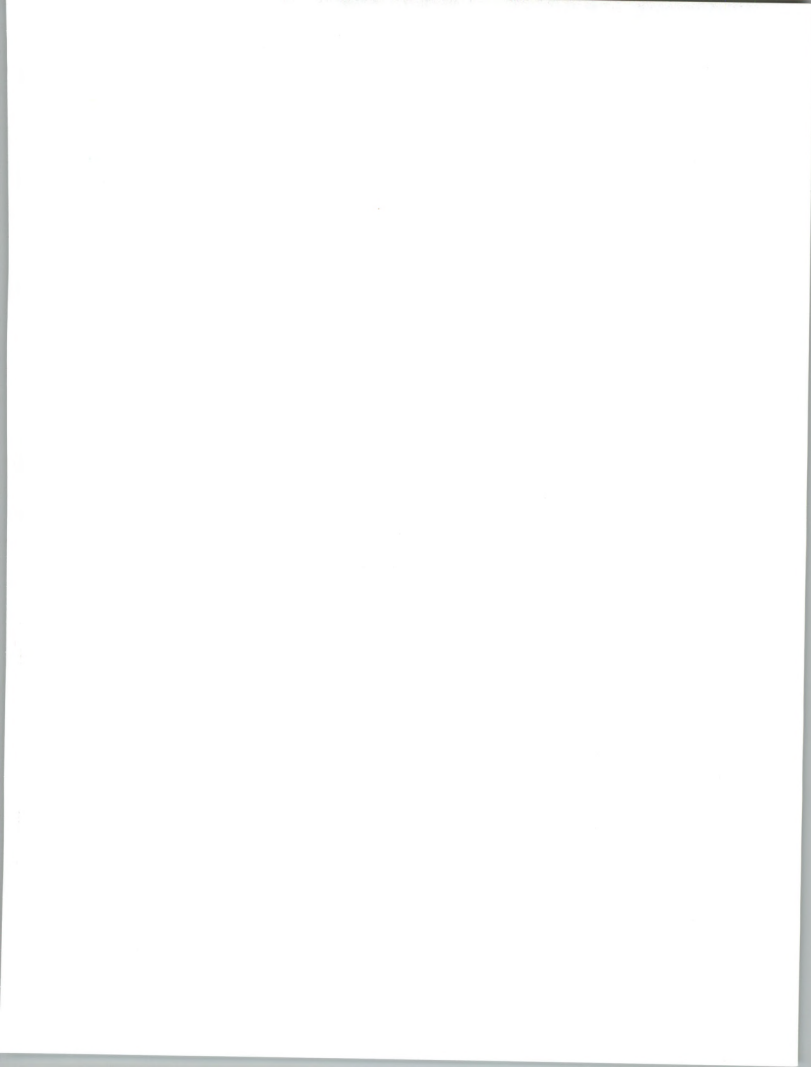
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