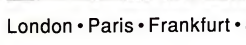
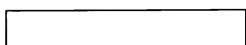
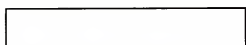
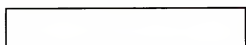
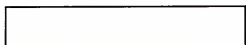
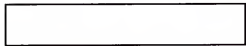




Executive
Overview



User Satisfaction
in Europe

Large Systems
1992



INPUT[®]

London • Paris • Frankfurt • San Francisco • New York • Washington, D.C. • Tokyo

To Our Clients:

This summary is an excerpt from a full research report, *User Satisfaction in Europe—Large Systems, 1992*, issued as part of INPUT's Customer Services Programme—Europe. A complete description of the programme is provided at the end of this Executive Overview.

If you have questions or comments about this report, please call INPUT at 071 493 9335, or on +44 71 493 9335 if calling from abroad, and ask for the Client Hotline.

Abstract

This study presents data relating to:

- User perceptions of vendor service performance
- User satisfaction with the servicing of large computer systems

The data presented in this study have been collected by INPUT between April and November 1992 in a survey of computer users in 16 European countries.

The study contains an analysis of the key findings that emerge from the results of the 1992 large systems user survey.

Analysis related to specific country markets includes the following countries:

- France
- Germany
- Italy
- United Kingdom

Analysis related to the service performance of specific vendors includes the following vendors:

- Amdahl
- IBM
- Hitachi

Overview Contents

A. Users Fully Satisfied with Hardware Service but Undersatisfied with Software Support	III-1
B. User Satisfaction in Europe	III-2
1. Hardware Service	III-2
2. Systems Software Support	III-3
C. Country Market User Satisfaction	III-5
1. Hardware Service	III-5
2. Systems Software Support	III-6
D. The German Market	III-7
E. Vendor Performance Achievements	III-8
Report Table of Contents	i
Report Exhibits List	iii
Programme Description	vii



Executive Overview

A

Users Fully Satisfied with Hardware Service but Undersatisfied with Software Support

The survey shows that, at the overall level of Europe, users are satisfied with service vendor performance for hardware, but undersatisfied with software support. However, users express acceptable hardware services, but significant undersatisfaction for spares availability and concern for engineer skills. Concerning software support, with the exception of the engineer skills aspect, for which concern is expressed, users express varying degrees of acceptable undersatisfaction.

For the overall image quality of vendor service performance, if users indicate degrees of acceptable undersatisfaction with hardware service, they express concern for software support. In both cases, U.K. users are the exception:

- For hardware service, U.K. users express oversatisfaction.
- For software support, they show an acceptable degree of undersatisfaction.

At the level of specific country markets, large systems users in France and in the U.K. are oversatisfied with the French users concerned for software support. Italian users are undersatisfied. German users indicate real dissatisfaction.

Exhibit III-1 highlights the top-level findings that emerge from analysis of user satisfaction results relating to the servicing of large systems.

EXHIBIT III-1

Key Findings

- Overall, large systems users express oversatisfaction with hardware service, but acceptable undersatisfaction with software support.
- U.K. large systems users are oversatisfied with vendor service performance.
- German users remain dissatisfied with vendor service performance.

B

User Satisfaction in Europe

User satisfaction is assessed by INPUT using a satisfaction index. Satisfaction index is calculated as the difference between importance ratings and satisfaction ratings, with both ratings being given by users on a scale of 0 to 10. Interpretation of the satisfaction index is as follows:

- (2) = Clearly oversatisfied
- (1) = Oversatisfied
- 0 = Completely satisfied
- 1 = Concerns and worries
- 2 = Real dissatisfaction
- 3 = Pain level

At the overall European level, large systems user satisfaction with vendor service in 1992 is summarised by the following results:

1. Hardware Service

Results of the large systems user satisfaction survey indicate that users are very marginally oversatisfied with vendor hardware service. This fact is expressed by an overall satisfaction index of (0.1), which is as close as it is possible to get to an optimum point where service levels and cost of service are in balance. This level compares favorably with the index of 0.0 reported at the end of 1991.

Within the overall framework of hardware service, five specific aspects were surveyed:

- Spares availability
- Engineer skills
- Problem escalation
- Documentation
- Remote diagnostics

However, among these services, spares availability is the object of acceptable but significant undersatisfaction (the satisfaction index is 0.7), and engineer skills cause concern with a satisfaction index of 1.0. Compared with 1991, three indices have deteriorated, namely:

- Spares availability
- Engineer skills
- Problem escalation

While two have improved:

- Documentation
- Remote diagnostics

INPUT interprets this as showing that vendors have successfully addressed the system-controlled aspects of hardware service, but have slipped in the areas of logistics and personal and managerial skills.

Exhibit III-2 provides the summary of user satisfaction with hardware service in Europe.

EXHIBIT III-2

User Satisfaction with Hardware Service in Europe Large Systems, 1992

Service Aspect	Satisfaction Index
Spares Availability	0.7
Engineer Skills	1.0
Problem Escalation	0.8
Documentation	(1.1)
Remote Diagnostics	(0.2)
Overall Level of User Satisfaction	(0.1)

Sample Size: 240

2. Systems Software Support

User perceptions of vendor support of systems software indicate acceptable but significant undersatisfaction expressed by an overall satisfaction index of 0.7.

Within the framework of systems software support, five specific aspects were surveyed:

- Engineer skills
- Documentation
- Software installation
- Provision of updates
- Remote diagnostics

All five indices have deteriorated since last year (1991), with engineer skills still causing most concern and documentation causing least, i.e., only marginal undersatisfaction. Remote diagnostics has deteriorated least, again indicating attention to system-controlled functions, which are easier to maintain within acceptable limits than human resource elements of service.

Exhibit III-3 provides a summary of user satisfaction with systems software support in Europe.

 EXHIBIT III-3

User Satisfaction with Systems Software Support in Europe Large Systems, 1992

Service Aspect	Satisfaction Index
Engineer Skills	1.2
Documentation	0.2
Software Installation	0.8
Provision of Updates	0.7
Remote Diagnostics	0.5
Overall Level of User Satisfaction	0.7

Sample Size: 240

C

Country Market User Satisfaction**1. Hardware Service**

Exhibit III-4 provides a summary of user satisfaction with hardware service in four major European country markets. This exhibit indicates that:

- Large systems users in France and in the U.K. are oversatisfied
- Large systems users are marginally dissatisfied in Italy
- Users show real dissatisfaction in Germany

Within the framework of the five specific aspects of hardware service surveyed, individual country markets can be summarised as follows:

- France:
 - Spares availability and engineer skills show acceptable but significant degrees of undersatisfaction, with satisfaction indices of 0.8 and 0.7 respectively.
 - All the other aspects indicate satisfaction ranging from complete satisfaction to oversatisfaction.

EXHIBIT III-4

**Country Market User Satisfaction with Hardware Service
Large Systems, 1992**

Country Market	Satisfaction Index
France	(0.2)
Germany	2.2
Italy	0.3
United Kingdom	(1.7)

Sample Sizes:	France	66
	Germany	55
	Italy	28
	U.K.	38

- Germany:
 - Real dissatisfaction for all the aspects except for problem escalation where an acceptable degree of undersatisfaction is expressed with a satisfaction index of 0.8.
- Italy:
 - All the aspects show varying degrees of acceptable undersatisfaction; satisfaction indices range from 0.1 to 0.6.
- United Kingdom:
 - Engineer skills indicate slight concern with a satisfaction index of 0.1.
 - All the other aspects indicate oversatisfaction, the minimum satisfaction index being (1.0) for spares availability.

2. Systems Software Support

Exhibit III-5 provides a summary of user satisfaction with systems software support in four major European country markets. With the exception of the U.K., where oversatisfaction has been achieved, this exhibit indicates high levels of concern in France and in Italy, and real dissatisfaction in Germany.

In comparison with the 1991 survey, there is a marked deterioration in France (by 0.9), in Germany (by 0.6) and in Italy (by 0.2). Only in the U.K. is there an improvement by a large (1.1), but the U.K. was already oversatisfied.

EXHIBIT III-5

Country Market User Satisfaction with Systems Software Support Large Systems, 1992

Country Market	Satisfaction Index
France	1.3
Germany	2.0
Italy	0.9
United Kingdom	(1.3)

Sample Sizes:	France	66
	Germany	55
	Italy	28
	U.K.	38

Within the framework of the five specific aspects of systems software support surveyed, individual country markets can be summarised as follows:

- France:
 - Apart from remote diagnostics showing an acceptable degree of undersatisfaction with a satisfaction index of 0.6, all other aspects register concern. For these aspects, satisfaction indices range from 1.0 to 1.7, with the worst one of these being for documentation.
- Germany:
 - All five aspects of systems software support surveyed indicate varying degrees of dissatisfaction.
 - The satisfaction indices for engineer skills, documentation and remote diagnostics positioned in the real dissatisfaction level, with 2.1, 2.0 and 2.3 respectively.
 - The satisfaction indices for software installation and provision of updates also show a high level of concern, with 1.8 and 1.6 respectively.
- Italy:
 - Engineer skills indicates a degree of concern with a satisfaction index of 1.4.
 - All other aspects show varying degrees of acceptable undersatisfaction, from 0.5 for documentation to 0.9 for remote diagnostics.
- United Kingdom:
 - Apart from a marginal degree of undersatisfaction with 0.3 for engineer skills, all the satisfaction indices for the other aspects reveal degrees above the complete satisfaction level.

D

The German Market

User satisfaction with vendor service in the large systems sector in Germany compares poorly with that in other country markets analysed in this study. The explanation and interpretation of these findings can be found in the 1991 large systems report, which showed the same findings.

The marked further deterioration registered this year (1992) bears the following commentary from INPUT:

- In common with vendors in other countries, vendors in Germany are stretched to provide the same level and calibre of staff in service functions as recessionary pressures increase.
- The troubles of specific vendors such as Siemens Nixdorf, where large staff redundancies were announced during the course of the 1992 survey, have attracted the worse aspects of user perceptions.
- INPUT would expect the difference between German and other countries' satisfaction indices to lessen as recession grips the German economy further. The reason behind this feeling is that German users and consumers have become accustomed to expecting their economy to perform above the European average. Hence, a feeling has arisen that all things German should be judged more stringently than those of overseas rivals. This gap in expectations is predicted to slowly close as Germany comes to terms with the dilution of many of its aspects of excellence, caused by the challenge of integrating the eastern provinces and raising their standard of living to that of Germany as a whole.

E

Vendor Performance Achievements

Exhibits III-6 and III-7 provide a ranking of the user satisfaction achievements of Amdahl, IBM and Hitachi in 1992, the three large systems vendors for which an acceptable statistical sample size was obtained. These two exhibits also provide a comparison between the achievements of these three vendors relatively to the overall sample of 240 large systems users surveyed throughout Europe in 1992.

All three vendors achieved an acceptable or better overall level of user satisfaction, according to INPUT's 1992 user satisfaction survey.

Amdahl:

- The overall satisfaction index for Amdahl indicates as near a degree of complete satisfaction (0.1) for hardware service as it is possible to achieve. However, the satisfaction index for spares availability reveals a degree of acceptable but significant undersatisfaction of 0.8; and that for engineer skills reveals a degree of concern with 1.0.

IBM:

- The satisfaction index for documentation, which is (0.4), shows complete (and in fact over-) satisfaction.
- Spares availability and engineer skills indicate concern with 1.2 and 1.3 respectively.

Hitachi:

- All the satisfaction indices reveal complete satisfaction or better. It is worth noting that the lowest two individual satisfaction indices are of (0.4) for spares availability and of 0.0 for engineer skills.
- Hitachi emerges as the best of these three vendors of large systems by a comfortable margin.

EXHIBIT III-6

Vendor Ranking - Hardware Service Large Systems, 1992

Vendor	Overall Satisfaction Index
1 Amdahl	(0.1)
2 IBM	0.7
3 Hitachi	(1.5)
European Average (Large Systems)	(0.1)

Sample Sizes:	Amdahl	85
	IBM	74
	Hitachi	47
	Europe	240

The overall software systems support satisfaction indices for the three vendors all express some level of undersatisfaction, with IBM's even reaching the level of concern.

But this assessment does not fully reflect the views of the users on the totality of software support for these users' systems because certain users have their systems software supported by third party vendors, either wholly or in combination with the equipment vendor. For IBM systems, only 85% of software are supported by IBM; for Amdahl systems, only 66% by the system vendor; and for Hitachi, only 53%.

Amdahl:

- Engineer skills causes concern, with a satisfaction index of 1.0. On the other hand, documentation shows complete satisfaction, with a satisfaction index of 0.0.

IBM:

- The satisfaction index of engineer skills expresses a significant level of concern, i.e., 1.6.

Hitachi:

- The satisfaction index of engineer skills shows a significant level of undersatisfaction, with an index of 0.7. Documentation, however, indicates complete satisfaction.

EXHIBIT III-7

Vendor Ranking - Systems Software Support Large Systems, 1992

Vendor		Overall Satisfaction Index
1	Amdahl	0.5
2	IBM	1.0
3	Hitachi	0.3
European Average (Large Systems)		0.7

Sample Sizes: Amdahl 85
 IBM 4
 Hitachi 47
 Europe 240

Table of Contents

I

Introduction	I-1
A. Objectives and Scope	I-1
B. Methodology	I-1
C. Report Structure	I-3

II

Interpretation of the Data	II-1
A. Definitions	II-1
B. Statistics	II-1
C. Ratings and Satisfaction Index	II-2

III

Executive Overview	III-1
A. Users Fully Satisfied with Hardware Service but Undersatisfied with Software Support	III-1
B. User Satisfaction in Europe	III-2
1. Hardware Service	III-2
2. Systems Software Support	III-3
C. Country Market User Satisfaction	III-5
1. Hardware Service	III-5
2. Systems Software Support	III-6
D. The German Market	III-7
E. Vendor Performance Achievements	III-8

IV

User Satisfaction in Europe - Large Systems	IV-1
---------------------------------------------	------

Table of Contents (Continued)

V	Country Market Service Performance Data - Large Systems	V-1
---	---------------------------------------------------------	-----

VI	Vendor Service Performance Data - Large Systems	VI-1
----	-------------------------------------------------	------

Appendixes	A. Computer User Survey Questionnaire	A-1
------------	---------------------------------------	-----

Exhibits

I

- 1 1992 User Interview Programme - User Sample by Country I-2
 - 2 1992 User Interview Programme - User Sample by Vendor I-3
-

III

- 1 Key Findings III-2
 - 2 User Satisfaction with Hardware Service in Europe, Large Systems, 1992 III-3
 - 3 User Satisfaction with Systems Software Support in Europe, Large Systems, 1992 III-4
 - 4 Country Market User Satisfaction with Hardware Service, Large Systems, 1992 III-5
 - 5 Country Market User Satisfaction with Systems Software Support, Large Systems, 1992 III-6
 - 6 Vendor Ranking - Hardware Service - Large Systems, 1992 III-9
 - 7 Vendor Ranking - Systems Software Support - Large Systems, 1992 III-10
-

IV

- 1 Europe - Sample Distribution by Industry Sector - Large Systems, 1992 IV-2
- 2 Europe - User Satisfaction with Hardware Service - Large Systems, 1992 IV-3
- 3 Europe - User Satisfaction with Systems Software Support - Large Systems, 1992 IV-3
- 4 Europe - System Performance Data - Large Systems, 1992 IV-4
- 5 Europe - Service Response and Repair/Fix Time Performance - Large Systems, 1992 IV-4
- 6 Europe - Service Provider Data - Large Systems, 1992 IV-5
- 7 Europe - Users' Views on Current Service Performance - Large Systems, 1992 IV-5

Exhibits (Continued)

V

- | | | |
|------|----------------------------------------------------------------------------------|------|
| - 1 | France - Sample Distribution by Industry Sector - Large Systems, 1992 | V-2 |
| - 2 | France - User Satisfaction with Hardware Service - Large Systems, 1992 | V-2 |
| - 3 | France - User Satisfaction with Systems Software Support Large Systems, 1992 | V-3 |
| - 4 | France - System Performance Data - Large Systems, 1992 | V-3 |
| - 5 | France - Service Response and Repair/Fix Time Performance - Large Systems, 1992 | V-4 |
| - 6 | France - Service Provider Data - Large Systems, 1992 | V-4 |
| - 7 | France - Users' Views on Current Service Performance - Large Systems, 1992 | V-5 |
| - 8 | Germany - Sample Distribution by Industry Sector - Large Systems, 1992 | V-5 |
| - 9 | Germany - User Satisfaction with Hardware Services - Large Systems, 1992 | V-6 |
| - 10 | Germany - User Satisfaction with Systems Software Support - Large Systems, 1992 | V-6 |
| - 11 | Germany - System Performance Data - Large Systems, 1992 | V-7 |
| - 12 | Germany - Service Response and Repair/Fix Time Performance - Large Systems, 1992 | V-7 |
| - 13 | Germany - Service Provider Data - Large Systems, 1992 | V-8 |
| - 14 | Germany - Users' Views on Current Service Performance - Large Systems, 1992 | V-8 |
| - 15 | Italy - Sample Distribution by Industry Sector - Large Systems, 1992 | V-9 |
| - 16 | Italy - User Satisfaction with Hardware Services - Large Systems, 1992 | V-9 |
| - 17 | Italy - User Satisfaction with Systems Software Support - Large Systems, 1992 | V-10 |
| - 18 | Italy - System Performance Data - Large Systems, 1992 | V-10 |
| - 19 | Italy - Service Response and Repair/Fix Time Performance - Large Systems, 1992 | V-11 |
| - 20 | Italy - Service Provider Data - Large Systems, 1992 | V-11 |
| - 21 | Italy - Users' Views on Current Service Performance - Large Systems, 1992 | V-12 |
| - 22 | United Kingdom - Sample Distribution by Industry Sector - Large Systems, 1992 | V-12 |

Exhibits (Continued)

V

- | | | |
|-----|-----------------------------------------------------------------------------------------|------|
| -23 | United Kingdom - User Satisfaction with Hardware Services - Large Systems, 1992 | V-13 |
| -24 | United Kingdom - User Satisfaction with Systems Software Support - Large Systems, 1992 | V-13 |
| -25 | United Kingdom - System Performance Data - Large Systems, 1992 | V-14 |
| -26 | United Kingdom - Service Response and Repair/Fix Time Performance - Large Systems, 1992 | V-14 |
| -27 | United Kingdom - Service Provider Data - Large Systems, 1992 | V-15 |
| -28 | United Kingdom - Users' Views on Current Service Performance - Large Systems, 1992 | V-15 |

VI

- | | | |
|-----|---------------------------------------------------------------------------------|------|
| -1 | Amdahl - Sample Distribution by Industry Sector - Large Systems, 1992 | VI-2 |
| -2 | Amdahl - User Satisfaction with Hardware Services - Large Systems, 1992 | VI-2 |
| -3 | Amdahl - User Satisfaction with Systems Software Support - Large Systems, 1992 | VI-3 |
| -4 | Amdahl - System Performance Data - Large Systems, 1992 | VI-3 |
| -5 | Amdahl - Service Response and Repair/Fix Time Performance - Large Systems, 1992 | VI-4 |
| -6 | Amdahl - Service Provider Data - Large Systems, 1992 | VI-4 |
| -7 | Amdahl - Users' Views on Current Service Performance - Large Systems, 1992 | VI-5 |
| -8 | IBM - Sample Distribution by Industry Sector - Large Systems, 1992 | VI-5 |
| -9 | IBM - User Satisfaction with Hardware Services - Large Systems, 1992 | VI-6 |
| -10 | IBM - User Satisfaction with Systems Software Support - Large Systems, 1992 | VI-6 |
| -11 | IBM - System Performance Data - Large Systems, 1992 | VI-7 |
| -12 | IBM - Service Response and Repair/Fix Time Performance - Large Systems, 1992 | VI-7 |
| -13 | IBM - Service Provider Data - Large Systems, 1992 | VI-8 |

Exhibits (Continued)

VI

- | | | |
|-----|----------------------------------------------------------------------------------|-------|
| -14 | IBM - Users' Views on Current Service Performance - Large Systems, 1992 | VI-8 |
| -15 | Hitachi - Sample Distribution by Industry Sector - Large Systems, 1992 | VI-9 |
| -16 | Hitachi - User Satisfaction with Hardware Services - Large Systems, 1992 | VI-9 |
| -17 | Hitachi - User Satisfaction with Systems Software Support - Large Systems, 1992 | VI-10 |
| -18 | Hitachi - System Performance Data - Large Systems, 1992 | VI-10 |
| -19 | Hitachi - Service Response and Repair/Fix Time Performance - Large Systems, 1992 | VI-11 |
| -20 | Hitachi - Service Provider Data - Large Systems, 1992 | VI-11 |
| -21 | Hitachi - Users' Views on Current Service Performance - Large Systems, 1992 | VI-12 |

Customer Services Programme—Europe

SUMMARY

Market research and consultancy service for information technology (IT) customer services organisations.

REPORTS

Professional Services Strategies
Impact of Downsizing on Customer Services Organisations
Open Systems Services
IT Customer Services Market, 1992-1997
IT Customer Services Satisfaction Analysis
 - *Large Systems*
 - *Midrange Systems*
 - *PCs/Workstations*
IT Customer Services Trends and Issues
European Multivendor Maintenance Markets, 1992-1997
*Software Support Issues in Customer Services**
*Channel Support Issues in Customer Services**
*Environmental Services Opportunities for Customer Services Vendors**
*Independent Maintenance Market**

Service Update Monthly publication that tracks events and developments in the customer services industry.

Research Bulletins Regular reports on INPUT research findings and analysis of important industry announcements, trends and issues.

** Reports available immediately from 1991 research*

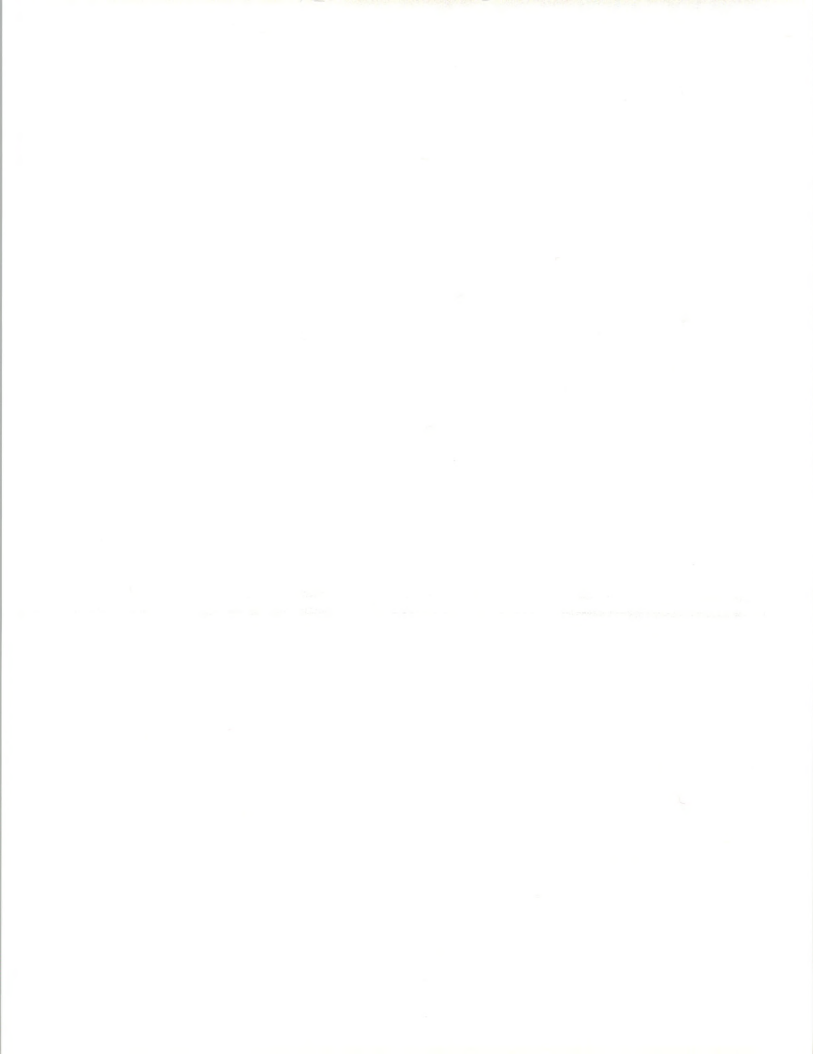
SERVICES

Telephone Enquiry Use the "hotline" to obtain answers to your immediate questions.

Access to INPUT Consultants Obtain opinions and advice from INPUT executives and consultants from meetings, mail, fax, and the telephone.

On-Site Visit Discuss issues and concerns, introduce experts to your organisation, and obtain presentations on industry trends.

Client Meetings Attend focused reviews of market trends. Discuss issues with other clients and INPUT's professional staff.



ABOUT INPUT

Since 1974, information technology (IT) users and vendors throughout the world have relied on INPUT for data, objective analysis and insightful opinions to support their plans, market assessments and technology directions, particularly in computer software and services. Clients make informed decisions more quickly and save on the cost of internal research by using INPUT's services.

Call us today to learn how your company can use INPUT's knowledge and experience to grow and profit in the revolutionary IT world of the 1990s.

ANNUAL SUBSCRIPTION PROGRAMMES

EUROPEAN AND NORTH AMERICAN MARKET ANALYSIS PROGRAMMES

*Analysis of Information Services, Software and Systems Maintenance Markets
5-year Forecasts, Competitive and Trend Analysis*

- 15 Vertical Markets
- 9 Categories of Software and Services
- 7 Cross-Industry Markets
- The Worldwide Market (30 countries)

EUROPEAN FOCUSED PROGRAMMES

- Outsourcing (vendor and user)
- Downsizing (vendor and user)
- Systems Integration
- Corporate Networks
- Customer Services

U.S. FOCUSED PROGRAMMES

- Outsourcing (vendor and user)
- Downsizing (vendor and user)
- Systems Integration
- EDI and Electronic Commerce
- IT Vendor Analysis
- U.S. Federal Government IT Procurements

CUSTOM CONSULTING

Many vendors leverage INPUT's proprietary data and industry knowledge by contracting for custom consulting projects to address questions about their specific market strategies, new product/service ideas, customer satisfaction levels, competitive positions and merger/acquisition options.

INPUT advises users on a variety of IT planning and implementation issues. Clients retain INPUT to assess the effectiveness of outsourcing their IT operations, assist in the vendor selection process and in contract negotiation/implementation. INPUT has also evaluated users' plans for systems and applications downsizing.

INPUT WORLDWIDE

London — 17 Hill Street

London W1X 7FB, England

Tel. +71 493-9335 Fax +71 629-0179

Paris — 24, avenue du Recteur Poincaré

75016 Paris, France

Tel. +1 46 47 65 65 Fax +1 46 47 69 50

Frankfurt — Sudetenstrasse 9

W-6306 Langgöns-Niederkleen, Germany

Tel. + 6447-7229 Fax +6447-7327

San Francisco — 1280 Villa Street

Mountain View, CA 94041-1194

Tel. (415) 961-3300 Fax (415) 961-3966

New York — 400 Frank W. Burr Blvd.

Teaneck, NJ 07666

Tel. (201) 801-0050 Fax (201) 801-0441

Washington, D.C. — 1953 Gallows Rd., Ste. 506

Vienna, VA 22182

Tel. (703) 847-6870 Fax (703) 847-6872

Tokyo — Saida Building, 4-6

Kanda Sakuma-cho, Chiyoda-ku

Tokyo 101, Japan

Tel. +3 3864-0531 Fax +3 3864-4114

