

# Gaining Business Value from IT Investment

## The CompuNet AG Case

*This case was prepared by Claudia Loebbecke, Research Assistant, and Tawfik Jelassi, Associate Professor at INSEAD. It is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.*

### Introduction

On March 27, 1992, at its annual press conference, the CompuNet Group announced for the first time since its creation in 1984 an apparent setback. Growth rates had declined and profit rates had dropped dramatically in the fiscal year ending June 30, 1991. However, during the following six months, results had improved and management announced to the press an improved earnings expectation for the year (see Exhibits 1, 2 and 3).

In the current year CompuNet is considered to be the leader in reselling, networking, maintaining and supporting personal computers (PCs) and increasingly supporting workstations in corporate Germany. During 1991, the turnover amounted to DM 625 million, and the number of employees reached 1,250 people. In the current year sales are expected to reach DM 700 million with 1,150 people. Currently, CompuNet installs every fourth IBM Personal System in Germany and every second one among the German Fortune 500 companies.

CompuNet calls itself a 'network integrator'. It not only sells computer hardware and software, but also provides the networking, maintenance and support services on site all over Germany at the users' premises. Under the umbrella of a holding company, the CompuNet Computer AG, 26 operating companies provide the sales and services (see Exhibit 4).

**Exhibit 1 Consolidated profit and loss account, CompuNet Computer AG**

	1990/91 in TDM	1989/90 in TDM
Net sales	625,729	340,402
Increase of work in progress	31	10
Other operating income	11,734	7,206
Cost of sales	466,322	263,113
<b>Gross profit</b>	<b>171,172</b>	<b>84,505</b>
Personnel costs	86,543	37,625
Depreciation	7,708	1,819
Other operating expenditure	63,166	27,206
Share of associated company profits	108	–
Interest receivable and similar income	6,354	236
Interest payable and similar expenditure	–17,954	–6,563
<b>Profit on ordinary activities before taxation</b>	<b>2,263</b>	<b>11,629</b>
Extraordinary results	3,000	–
<b>Profit before taxation</b>	<b>5,263</b>	<b>–</b>
Taxation	7,264	5,461
Other taxation	1,609	748
Dividends to silent partners	4,632	2,100
Depreciation of goodwill	1,244	333
Minority interest	2,250	1,287
<b>Net earnings</b>	<b>–11,736</b>	<b>296</b>

**Exhibit 2 Consolidated balance sheet, CompuNet Computer AG**

	30.6.1991 in TDM	30.6.1990 in TDM
<b>Assets</b>		
<b>Fixed assets</b>		
Intangible assets	19,443	5,889
Tangible assets	14,171	7,839
Investments	1,068	1,048
	<b>34,682</b>	<b>14,774</b>
<b>Current assets</b>		
Stocks	109,312	50,728
Accounts receivable and other current assets	<b>133,804</b>	<b>69,674</b>
Cash and banks	9,483	5,340
	<b>252,599</b>	<b>125,742</b>
Prepayment and accrued income	812	179
	<b>288,093</b>	<b>140,694</b>
<b>Liabilities</b>		
<b>Shareholders' equity</b>		
Share capital	9,591	2,400
Minority interest	11,669	6,550
Capital reserve	55,976	1,004

**Exhibit 2** *Continued*

	30.6.1991 in TDM	30.6.1990 in TDM
Profit and loss account	- 16,958	68
	60,278	10,022
Silent partners	30,000	20,000
Employees' ownership programme	4,323	2,838
Tax credits	354	--
<b>Accruals</b>		
Pension accruals	1,103	875
Other accruals	18,243	11,041
	19,346	11,916
<b>Creditors and liabilities</b>		
Trade creditors	76,325	52,277
Other creditors	97,394	43,447
	173,719	95,724
Deferred income	73	196
	288,093	140,694

**Exhibit 3** *CompuNet holding: Financial results in million DM (except for number of employees) (source: CompuNet and DATA SERVICE Group Interim Report, 1992)*

	1st Half 1990/91	1st Half 1991/92
Net sales	319.5	346
Revenues from sales	21.0	39.1
Profit before taxation	9.3	8.1
Employees (average)	1,075	1,241
Personnel expenses	42.4	52.1
Equity	48.3	53
Own resources	94.5	105.9

Over the last few years CompuNet has invested heavily in setting up its Information Technology (IT) infrastructure. It has spent significantly more on IT than its competitors or similar companies. Says Klaus Wenghöfer, Head of the SAP<sup>1</sup> Team, 'we would not have been able to achieve our current position as leading network integrator so quickly, or take over a competitor like DATA SERVICE and integrate it as swiftly, if we had not been such a heavy investor in IT capabilities'.

Since 1991, there has been bad news on the IT industry in general, and



the PC business in particular. For the first time ever, turnover in professional PCs has declined as a result of moderate volume growth and severe price cutting.<sup>2</sup>

In a special session of the Supervisory Council, the Executive Board was invited to make a candid assessment of the status of the company in the light of recent industrial developments and the corporate financial performance, as well as to present necessary measures in order to improve overall competitiveness and profitability. Aware of the importance of presenting a convincing analysis and strategy to ensure the continuous support of the board and the financial community, Jost Stollmann, the Speaker of the Executive Board, asked his Assistant, Max Nussbaumer, to prepare a short write-up on one of the many questions he was struggling with: 'Are our high IT investments still justifiable in these times of low and shrinking profit margins?'

## **Company Information**

### *The Beginning*

In 1984, Jost, at that time working as a consultant in the USA for the Boston Consulting Group, founded 'CompuNet' in Cologne with a starting capital of DM 300,000 and four employees. From the very beginning CompuNet focused its operations on German Fortune 500 companies that already used Electronic Data Processing (EDP) systems and intended to distribute their processing power and applications from central mainframes to PCs.

CompuNet chose IBM in order to provide quality hardware and services and to ensure compatibility with systems already in place. This narrow product focus looked promising, since most large companies already had IBM mainframes installed, IBM's direct sales force could be used for co-operative selling and the technical skills in networking could be specialised. However, as Jost pointed out, 'We were a late entrant as IBM resellers. The Cologne outlet, when it opened late in 1984, was the 219th authorised dealer. Restricting ourselves to the IBM dealership was not that original.'

The corporate structure which allowed management to take a significant equity stake was unusual. In 1985 two former IBM executives, Dr. Guenther Lampertsdorfer and Dieter Lange, joined CompuNet taking their stake in the operating company in Cologne and the holding company which was founded subsequently. They provided intimate knowledge and a network of contacts within the IBM world as well as access to large IBM

accounts. Sales tripled in one year. Soon customers required federal support. In 1986 the Frankfurt outlet was founded with another IBM executive, Dieter Bischoff, joining the company. In 1987 the Hamburg and Munich offices were opened. The geographical expansion continued rapidly until complete coverage, including that of former East Germany, was achieved. Until now, the CompuNet sales and services organisation had represented IBM exclusively: PCs IBM PS/2, workstations IBM RISC/6000 and midrange systems IBM AS/400. These systems were, however, enlarged and customised with the help of numerous hardware add-ons, peripherals and software from other manufacturers. Examples include Hewlett Packard's laser printers, NEC's matrix printer, communication boards, Microsofts, Lotus and other software products. CompuNet's financial results reflected this fast growth process (see Exhibit 5).

In November 1990 CompuNet acquired the holding company of one of its closest competitors, the DATA SERVICE group, thus adding DM 170 million in turnover, 450 employees and a nation-wide network of outlets. In the subsequent months, logistics and data processing were integrated into the overall corporate structure. The branch system was streamlined; numbers of staff were reduced and some outlets were closed while new ones opened. However, it was maintained as an independent sales and service network in competition with the CompuNet branch system. The DATA SERVICE group was used to resell Compaq PCs and Toshiba laptops in addition to IBM personal systems. The costs of the DATA SERVICE integration adversely impacted on the results of the fiscal year ending June 30, 1991. It also caused a major corporate restructuring in order to reflect the needs of a larger, more heterogeneous company.

In the autumn of 1991, due to the major growth of CompuNet and the increasing centralisation of various logistic functions, the company's headquarters and the central distribution centre were moved to a new location outside Cologne. The futuristic design of the new building reflected the

**Exhibit 5** *CompuNet sales history (in million DM)*

1984/85	3.3
1985/86	20.8
1986/87	45.5
1987/88	96.2
1988/89	175.9
1989/90	340.0
1990/91	625.7
1991/92	700.0

company's innovative spirit. Nicolas Brunswig, Marketing Representative at CompuNet Project Management GmbH, expressed this: 'The new building not only contributes to a positive image of the company. Additional space was an absolute necessity as has already been shown in the efficiency improvements regarding the organisation of the warehousing area as well as in the reduced number of errors in the technical configuration of equipment.'

### *CompuNet's Business Strategy*

CompuNet's main strategic thrust is specialisation in several dimensions. Not only does the company concentrate on IBM products, but it also focuses on German Fortune 500 customers. Says Jost: 'Right from the beginning we decided to go into the complex world of large customers. They have their own system support teams and look for infrastructure services often spread all over Germany or even over Europe.' To approach this customer group efficiently, CompuNet targets the decision makers of the client company, not the users of the system. Jost explains, 'The goal is to provide large customers with a complete offering (from initial installation, to operation and maintenance, to replacement) of intelligent workstations which are spread throughout their organisation. Our major strength is to provide a reliable and accountable service around large installations all over Germany.'

For the time being Jost does not see any need to water down the focus of his company and move into different products: 'The market is still so large that we can easily grow further. The growth of the resale market might flatten in the future but the significant growth opportunities in services can more than compensate for this.' Regarding the value-added that CompuNet provides to its clients, Jost thinks that his group 'combines the products of several manufacturers in a powerful, cost efficient network', and that it 'provides the flexibility to customise the service at the customer's location. Of course, to justify our existence as the last member in the value chain of the product before it gets to the client, we have to deliver at low cost, fast speed, and high quality.'

CompuNet certainly is aware of the market shift from sales to service and maintenance. However, it still aims at being a strong player in its industry in terms of spotting opportunities around the desk top. Jost explains: 'Whereas our first objective was to become the leading supplier of PCs to large corporate accounts, it is now our objective increasingly to leverage this relationship with high value-added services.'

Over the years CompuNet has increasingly improved its sales and delivery systems to become faster, and more competitive in providing better

products. Since 1989 the company has – under the label ‘network services’ – built a leading position as network integrator, continuously improving the capabilities to install large complex networks in a timely, reliable and economic way. Since 1991 it has been making major investments in the area of ‘network maintenance’ so as to provide support for corporate Local Area Network (LAN) environments.

Competing on all three fronts (network sales, integration and maintenance) requires a high degree of co-ordination within CompuNet to ensure fast internal communication and to provide close links to suppliers and customers. Therefore, the prior installation of an efficient network system is considered a prerequisite for success.

### *CompuNet's Organisational Structure*

CompuNet is a conglomerate of companies which are linked together by a holding structure. Each partner has a share in the holding as an incentive to care for the prospect of the company as a whole. Whenever an office reaches the size of 50–60 people and further business opportunities exist in the market, a new company is founded. This concept of growth by replication also applies to CompuNet companies that specialise in equipment maintenance and service, training consultancy, sales of standard software and network design.

Moreover, a number of competitors have been taken over in the past few years.<sup>3</sup> They have been integrated into the CompuNet framework but some, for example, the nation-wide chain DATA SERVICE, have kept their original names. Jost explains the benefits of this arrangement:

Having two brands allows for a better positioning. CompuNet services large accounts in close co-operation with IBM's direct sales force. DATA SERVICE supplies a larger multivendor market by offering IBM, Compaq, and Toshiba products. Furthermore, large clients require offers from at least two different suppliers in order to make comparisons before placing an order. We can make two offers: one from CompuNet and one from DATA SERVICE. The client can choose between competitive terms and different teams while remaining within the overall CompuNet group.

The resulting network of 26 rather independent companies with different specialisations and tasks is very complex. The value chain is not present within one company, but spans over several within the holding:

- Suppliers' contacts and technical configuration take place in the Cologne distribution centre.



- Customer contacts and sales are made by the operating companies on site.
- Large projects are evaluated and designed with the help of CompuNet Consult GmbH.
- Software is provided by CompuNet Software GmbH.
- User hotlines are located in each branch with a central hotline in Munich as the last resort.
- Spare parts and federal-wide steering of maintenance contracts are provided by a CompuNet maintenance company.

The various companies within the framework effectively compete with each other for the target customer base in Germany. Services related to network design, consulting, training or software development are purchased from the other CompuNet companies. Rainer Richter, member of the CompuNet Finance team, says: 'Competition stimulates the business. We therefore want to create competition within CompuNet. But most of the time the company which is the nearest to the customer is the one that gets the business.'

Each company as well as the holding is characterised by an entrepreneurial culture which offers a partner tremendous freedom regarding his business decisions, but also forces him to take a large portion of personal risk<sup>4</sup> in 'his' company. Such a structure has two implications regarding potential employees: on the one hand, the group provides an attractive working environment for talented and dynamic employees, and on the other, it is dependent on finding new partners who are willing and able to cope with this freedom and responsibility. In this context, Jost points out that 'in a business with such a short lived special expertise, such a strong need for team work and such a close customer contact, the human qualities of employees gain an overwhelming importance'. The entrepreneurial culture and the rather unique organisational structure on which it is based are widely considered major success factors for CompuNet's growth.

However, in addition to and in contrast with the extensive delegation of responsibility to local companies, CompuNet aims at exploiting the economies of scale in certain services that can be more easily provided centrally than locally. While customer relations, field service and individual expertise can hardly be centralised, logistics, technical configuration and preinstallation of systems, data processing, marketing and financial functions are a primary target for these efforts. As far as logistics are concerned, the main warehouse in Cologne keeps the inventory for the whole company. The central ordering and warehousing is aimed at lower purchase prices and

inventory costs. Furthermore, marketing is centrally co-ordinated by Fiona Stollmann in order to ensure a consistent image throughout the whole organisation. Financial management including cash management, financing, reporting and corporate planning are likewise centralised.

### *Market Situation*

CompuNet's market is heavily influenced by various factors and segments. The service business (mainly installation, maintenance, support, training) depends heavily on the turnover in hardware sales. The close co-operation with one supplier, IBM, makes IBM's market share a determining factor for CompuNet's market share. Of slightly less importance are the shares of Compaq and Toshiba.

Regarding supplier market shares, the *world-wide* analysis (see Exhibit 6) reflects an extremely competitive situation. IBM as the market leader represents only a share of 13% with no competitor reaching more than 10%. In *Europe*, IBM is also the largest supplier (in value), but its overall market share has been decreasing – from 45% in 1983 to 23% in 1990 (see Exhibit 7). Steve Lair, Director of the micro systems group and a Vice-President at Dataquest Inc., a research company based in San Jose, California, explains IBM's decline in world-wide market share as a reflection of pricing, not of PS/2 performance: 'The quality behind the PS/2 is clear, but IBM has been operating for some time with the perception that premium brand can command premium price.'

In recent years strong new players have appeared, who offer low cost PS and/or low cost alternative distribution. VOBIS was able to sell over 20,000 PS in the semi-professional market, whereas Dell and Escom aggressively targeted the corporate market (see Exhibit 8).

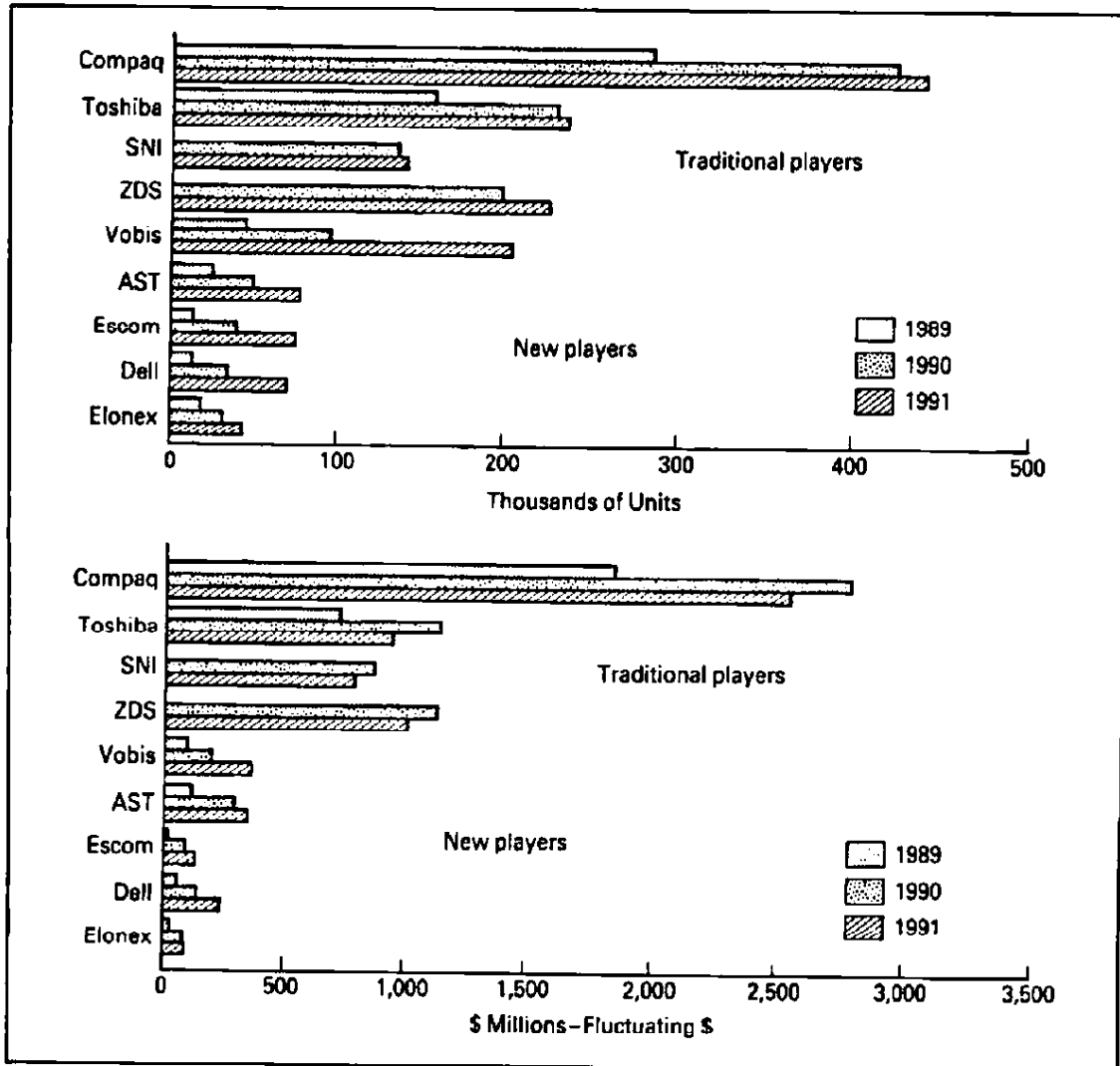
**Exhibit 6** *World-wide market shares in the PC market (percentages refer to values) (source: IDC Deutschland GmbH)*

IBM	12.9%
Apple	7.2%
Commodore	6.4%
NEC	5.7%
Compaq	3.7%
Toshiba	3.1%
Tandy/Grid/Victo	2.7%
Amstrad	2.5%
Seiko/Epson	2.4%
Olivetti	2.1%

**Exhibit 7** *Development of IBM's market share in Europe (source: Financial Times, November 1991)*

1983	45%
1984	29%
1985	30%
1986	20%
1987	27%
1988	25%
1989	24%
1990	23%

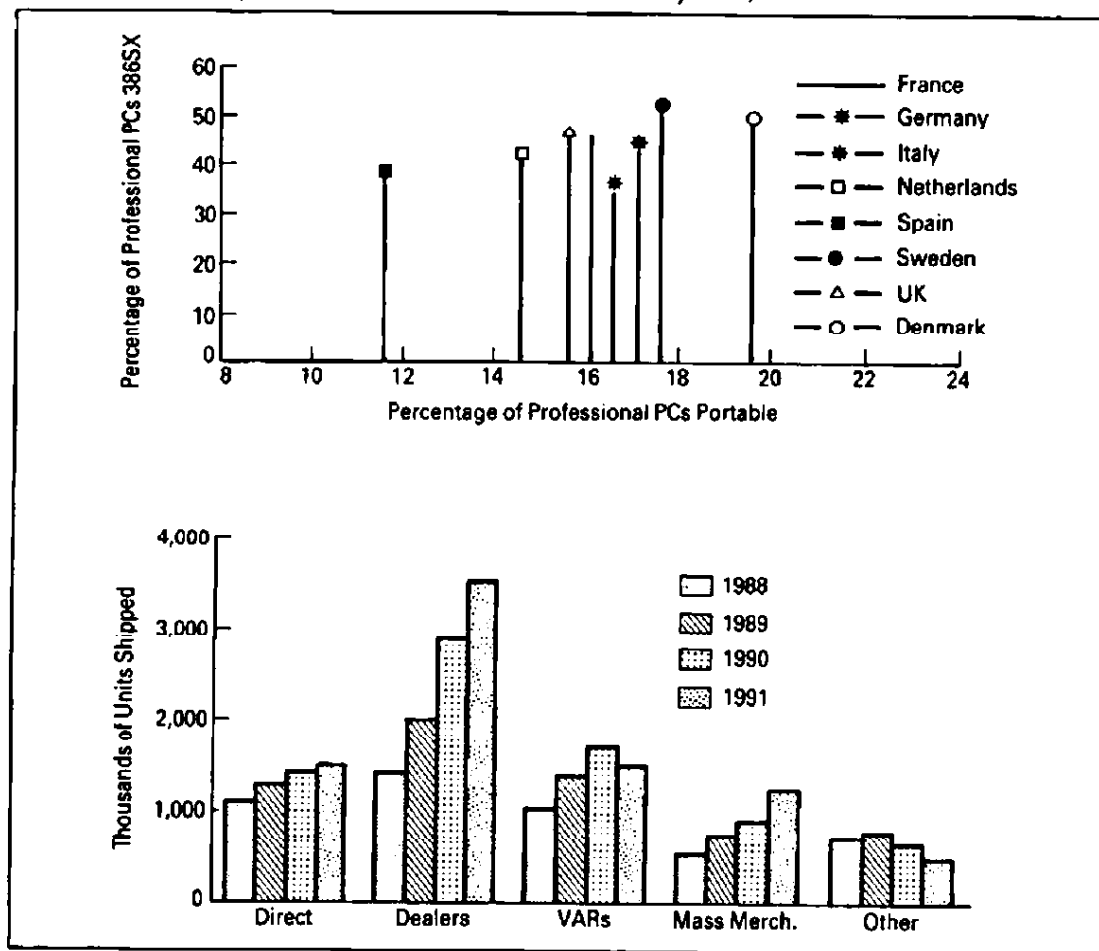
**Exhibit 8** *European PC market: selected vendor performance 1989-91 (source: Dataquest)*



Although dealers were able to increase the volume sold through them, they have felt increasingly threatened by manufacturers like Dell or Digital selling directly, or by others selling through mass merchandisers (see Exhibit 9).

Looking more closely at the PC market from the *retailer perspective*, VOBIS is clearly the market leader in Europe. As Theo Lieven, CEO of VOBIS AG explains, 'with about 270,000 PS and about DM 1 billion turnover in 1991, we are proud to be the largest computer retailer in Europe, and the same is certainly true for Germany, our home market'. In the IBM PC segment, which is focused on large customers, CompuNet is easily the market leader with an absolute market share of 23%. The second largest competitor, Metro/Comsys, has only about 5% market share. The rest of the segment is covered by smaller, often regionally focused players (see Exhibit 10).

**Exhibit 9** *European PC market (source: Dataquest)*



**Exhibit 10** *Market shares in the German IBM PC segment (% of value)  
(1st half year of 1991) (source: Dataquest)*

CompuNet/DATA SERVICE	23.0%
Metro/Comsys	5.3%
House of Computers	4.0%
M & F	2.7%
Fiducia	2.4%
Others accounting for the rest	

The German PC market is dominated by IBM with about 20% market share (see Exhibit 11). In 1990, IBM increased its share slightly (with an absolute lower turnover in a shrinking market).<sup>5</sup> Other manufacturers are close behind, but their ranking in terms of market share is constantly shifting. Due to intraorganisational problems at Siemens AG during its merger with Nixdorf, Compaq is in second position with a share of about 10%.

However, many large customers are looking for cheaper products and buy in a price-competitive segment which IBM does not serve. IBM concentrates on PS which cost more than DM 5,000, although this segment accounts for only a minority of the market. The larger number of PS are sold in the segment of prices below DM 5,000 (see Exhibit 12).

More promising for CompuNet is a study published by the market research institute Frost & Sullivan, according to which the market for the LAN service and maintenance is set to grow significantly. They foresee a growth from \$0.6 billion in 1991 to \$2.2 billion in 1996 and are expecting the sharpest increases in Germany, Spain and the Benelux countries.<sup>6</sup> Another study, also performed by Frost & Sullivan, predicts that by 1995 there will be a \$15.2 billion network and PC outsourcing market (see Exhibit 13).

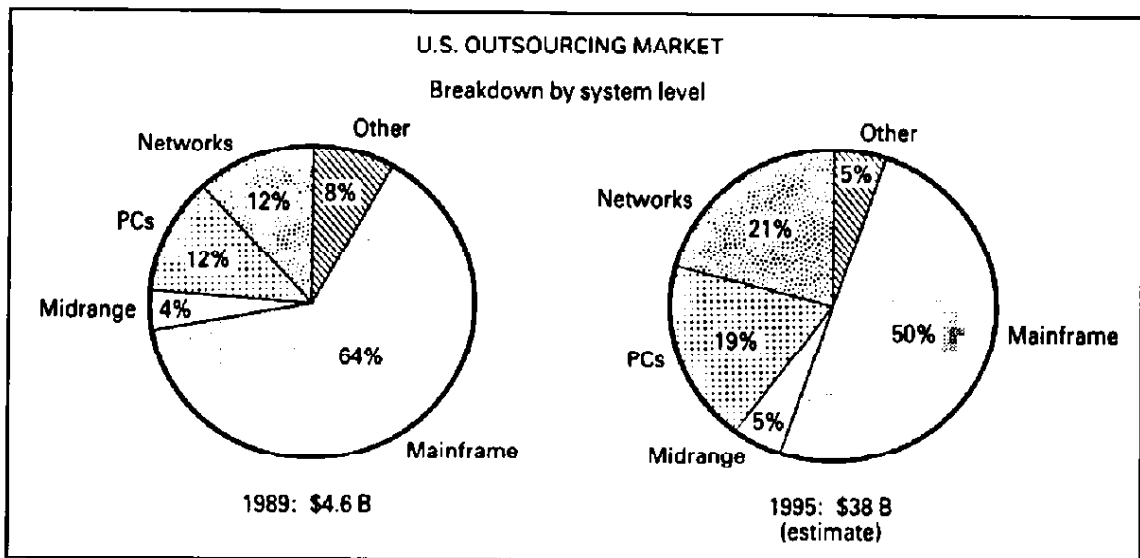
**Exhibit 11** *Market shares in the German PC market (% of value)  
(source: Dataquest)*

	1st half 1990	1st half 1991
IBM	18.8%	19.1%
Siemens Nixdorf	12.0%	9.0%
Compaq	9.5%	10.4%
Apple	5.2%	5.4%
Zenith	4.6%	4.8%
Toshiba	4.0%	4.4%
Tandon	4.0%	3.2%
Commodore	3.1%	
Nokia		3.1%
Others	38.3%	39.6%

**Exhibit 12 Market shares in Germany per price segment**  
 (source: IDC Deutschland GmbH)

Segment 1: PCs sold for less than DM 5,000 1990: 766,240 units		Segment 2: PCs sold for more than DM 5,000 1990: 508,740 units	
Vohis	14.30%	IBM	26.65%
Schneider	12.49%	SNI	15.90%
Commodore	10.10%	Compaq	8.24%
Schmitt	7.77%	Apple	5.36%
Atari	6.73%	HP	4.55%
Plantron	5.20%	Tandon	3.70%
Aquarius	4.60%	Olivetti	3.37%
Tandon	4.40%	Nokia	2.30%
Apple	4.04%	Atari	1.90%
Others	30.37%	Amstrad	1.57%
		Others	25.46%

**Exhibit 13**



**CompuNet's IT Systems**

CompuNet's use of IT aims at improving customer relations and corporate identity, which they see as being the key to successful growth and creating and maintaining a competitive advantage. The IT infrastructure is based on three pillars: the application software SAP, the office system PROFS (Office Vision), and the Information Network (IN) from IBM.

## *SAP*

The SAP software is the common data platform for the whole company. A central database and the application software provide real-time information about all relevant business activities – centralised or processed in the local branches. Few functions are performed centrally; the accounting procedure, for example, is performed locally in each CompuNet company. All companies, however, use the same ledger structure to facilitate the consolidation process. The account position of each company is available in real time to the finance team in the holding which is responsible for the consolidation.<sup>7</sup> This team prepares reports to the supervisory board reflecting the financial position of the holding company based on the local data. The SAP software makes this process transparent and easy to handle. It helps to reduce errors and to react quickly to potential financial problems. No cumbersome reporting is required from the operating companies; profit & loss and balance sheet are on-line.

CompuNet has implemented various modules of the SAP R/2 System which now support material planning and management, financial accounting, sales and distribution, personnel and cost accounting. If the different tasks in these areas require data exchange between different functions, e.g. between sales, ordering and delivery, the system controls these data flows and ensures data integrity. The R/2 System is a product family characterised by a modular structure, high reliability, easy migration, efficient maintenance and a high level of integration.<sup>8</sup>

SAP is viewed as an essential tool for supporting the sales and service network and is widely accepted within the company. Asked about the disadvantages of SAP, Bernd Bork, Marketing Representative at CompuNet Cologne, answers: 'The only time I don't like the system is when it breaks down and I cannot use it. SAP makes my work so easy and transparent that I do not see how I managed to get my job done before the introduction of SAP.' This mainframe-based commercial software was chosen because it allows for further growth, and supports data integrity, multi-language communication and multi-currency accounting.

## *PROFS*

In 1986, CompuNet installed IBM'S PROFS for in-house communication to provide electronic mail (e-mail) and file transfer between different users (nodes of the IBM network). Along with other hardware changes, PROFS was enhanced by IBM's Office Vision which allows for the use of the more

advanced OS/2 operating system. This enables files to be sent directly from one location to another without prior conversion from a different data format.

CompuNet assigns a mailbox to every user where messages can be stored for retrieval. Says Jost, 'if you want to call someone you have to make sure that he is available, ready to take your message, think and talk to you about it. In the case of e-mail you dump your message and the addressee can decide when he or she has the time to take it and work on it.' In addition to enabling asynchronous communication, Jost thinks that e-mail saves time. 'On the phone you always start the conversation with sentences like "How are you today?", "Did you have a relaxing holiday?". With e-mail this does not happen, because you just do not type these questions into a PC. This brings the message right to the point and makes it far more precise. E-mail makes you stick to the essential part of information.'

Another advantage of the e-mail system is that you can organise messages by topics. Addressees receive a message which is directed to them personally or because they are members of a group responsible for a certain topic. For example, an employee who has a question about SAP would send a message to the mailbox 'MBSAP' and a member of the SAP expert group would answer it. Thus one does not need to know the precise person with whom to communicate.

PROFS has gained more importance than the phone as an in-house communication medium; about 450 to 500 users are logged into the system daily. To ensure a quick response CompuNet has established a reply policy requiring employees to look into their mailbox and at least acknowledge receipt of a message within one or two days. To avoid information overload, mailing lists are set up to ensure that only those parties concerned by a given matter receive the related messages.

### *Information Network*

Since early 1989, CompuNet has been using the IBM Information Network as its nation-wide communication backbone. Reasons for choosing this network include the following:

- IBM is very flexible in contracting its services: it offers all connections ranging from a single stand-alone PC to a fully-fledged data processing centre. According to customer needs it is possible to contract fixed or variable amounts of data to be transferred in a certain time span. This flexibility results in a strong price competitiveness.



- The architecture of the network is compatible with the software used at CompuNet and allows for easy integration of the local networks in each office.
- The IN is well established in Germany and all over Europe and can also be used world-wide. Therefore, it does not limit CompuNet's growth.
- The IN provides the easiest connection to communicate with IBM.
- IBM guarantees the operation and maintenance of the network which reduces the financial risk of investment for the user.
- A redundancy of point-to-point connections ensures constant availability of the network. If a line fails, the user only registers an increase in response time which will be reduced again as soon as the line is back in service.

### Cost and Benefits of IT at CompuNet

When starting to prepare the IT budget report for Jost, Max Nussbaumer compares the available IT cost figures (see Exhibit 14) with the development of the company's gain & loss figures over the last three years (see Exhibits 1, 2 and 3). He knows that IT expenses have dramatically increased, partly due to the major investment in higher quality hardware and software. He soon realises that it will be hard to justify CompuNet's high IT expenses (as percentage of turnover) since they are significantly higher than those of companies operating in the same or similar markets. Max starts searching for ways to reduce IT costs or improve IT-related efficiency. Could

**Exhibit 14** *CompuNet Holding: IT expenses per year in DM*

Central IBM Hardware (Leasing Cost)		1,831,416
Operating Systems		778,980
MVS	500,736	
OV/VM	278,244	
Network Cost		660,000
SAP Software		435,780
Personnel for Operating Systems and SAP (Total Cost)		4,500,000
Consulting		600,000
Decentral PCs (Hardware and Personnel)		5,500,000
Hardware Finance Cost	2,500,000	
Personnel (20 people)	3,000,000	
<b>Total Sum</b>		<b>14,300,000</b>

CompuNet's IT intensity be lowered? What have the IT benefits for the company been so far?

### *IT Benefits*

It is necessary to ensure CompuNet's high quality of service which is at the core of corporate success, and to prevent pulling the loosely structured company apart. Underlying CompuNet's operations is the nation-wide communication network and the central database which provide the basis for intra- and inter-company communication and co-ordination. Employees communicate via electronic mail, not only with each other, but also with customers and with the main supplier, IBM. Information flows freely within CompuNet; ideas and requests for help are broadcast instantaneously throughout the organisation.

When assessing the IT benefits, Max first thinks about the contribution made by IT to CompuNet's growth. He knows that fast communication is central to the company business; this applies not only to information about customers, competitors and products, but also to the internal exchange of ideas and sharing of knowledge and expertise. CompuNet bases its success, to a large extent, on the creativity of its employees; this creativity is enhanced through the knowledge augmentation that takes place via the communication network.

For example, for an account manager, working with the client can be a source of new business ideas which may seem initially lacking in promise but, when thought through, are worth pursuing. These ideas are exchanged among the employees through PROFS, so that anyone interested in them can act on the suggestions or develop them further. With this process of diffusing initiatives inside the company, CompuNet has leveraged its employees' ideas without establishing a formal participation procedure. The company's culture supports this process.

Moreover, IT has contributed to resolving some technical problems raised by some customers. For example, using PROFS, a system engineer can broadcast a client problem that he cannot solve. Once he gets a reply, he can get in touch with the sender of the message for further information. This procedure enables the system engineer to collect and use the knowledge, on specific matters, of several hundred system engineers in the company within a short time span.

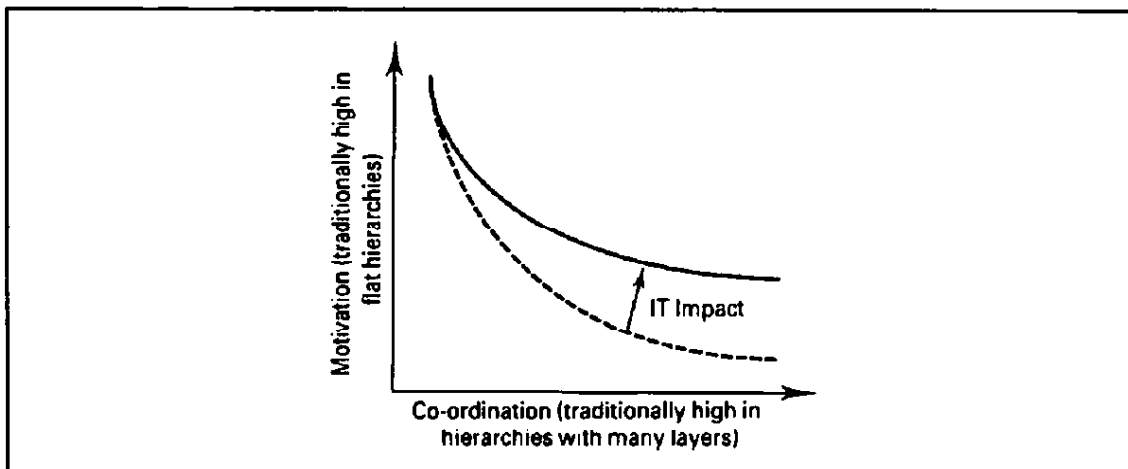
How should these benefits be measured? Max remembers Wolfgang Kolsch's (Head of the Data Centre) comments regarding the productivity improvement through PROFS: 'CompuNet counts on increased performance

due to the use of PROFS, but this is based on impressions, not on figures or hard facts.'

Since the report cannot specify the IT contribution to corporate growth, it should describe IT as providing the necessary infrastructure for managing the business and allowing further expansion. Max is convinced that, without IT support, CompuNet's transaction-intensive business with huge numbers of PS, small parts and frequent services would not be manageable. It is only through the SAP applications and the decentralised data processing that the company can handle the business logistics. If an order refers to the sales and maintenance of one network, this can easily require keeping track of thousands of PS and pieces of peripheral equipment. Moreover, one order must be fulfilled in numerous locations. Says Jost, 'The market has grown as fast as hell; the networks are becoming more and more complex, and you have to provide service at each location of a customer's premises.'

For Max, the other achievement made possible by IT is the company's non-hierarchical structure which has always been emphasised as being a crucial success factor. What role does IT play in this context? Obviously, SAP, PROFS and the Information Network provide the means for making information accessible throughout CompuNet. Furthermore, they help to co-ordinate information among CompuNet's local companies, since the distributed processing and e-mail capabilities facilitate linking different functions and procedures. The entrepreneurial organisational structure certainly enhances employees' motivation; however, it is only feasible in a company of CompuNet's size if the necessary co-ordination can nevertheless be guaranteed with the help of IT (see Exhibit 15).

**Exhibit 15** *IT impact on the relationship between motivation and co-ordination*



Reflecting on the role of IT at CompuNet since the foundation of the company, Max concludes that IT is necessary in order to operate such a non-hierarchical structure, to provide service all over Germany and to extend the company operations to the rest of Europe.

### *IT Costs*

Max investigates ways of improving the IT cost/benefit ratio. Could the number of SAP applications be reduced? Is PROFS really needed, or would a simpler e-mail system suffice? These questions are important for Max since the IT infrastructure is a free resource at CompuNet. Various functions and features are used frequently because they are freely available. An internal study criticised the existence of over 1,000 different individual reports used during peak business hours; it also questioned keeping years of data on-line. What could accountability for these resources achieve? Would it be possible and, if so, beneficial to assess and control priorities through administrative measures or even through (internal) market structures? What would a screening look like? Max decides to consult Jost before suggesting changes that could have a strong impact on the organisational structure.

Another option to reduce costs would be to use the technical abilities of the network for expanded service offerings. Says Jost, 'In the future we must cut field costs by maintaining the network remotely and we must cut management costs by managing the assets remotely. This requires databases which are automatically updated every time a change in the network occurs. As a provider of the initial equipment and of the ongoing service, we must extend our service provision into this area.' How about focusing on the frequently discussed topic of electronic data interchange (EDI)? Max still remembers Jost's comments on the potential EDI impacts: 'EDI provides the opportunity to reduce transaction costs in this business of small units, parts and services. Therefore, we should implement EDI with our major suppliers and clients. Of course, that would require a co-operative kind of partnership; partners would be less exchangeable and more mutual trust would be needed.' Of course, it will still take some time before the EDI concept becomes fully operational. In the meantime the push for EDI would increase the IT budget and not lower it. CompuNet has recently joined a task group set up by SAP and IBM to test an electronic ordering system. The group includes ten pilot users and aims at exploring the possibilities and benefits of EDI as a tool for material ordering.<sup>9</sup>

The next issue for Max is the cost-effectiveness of outsourcing some of CompuNet's IT facilities and/or functions. Currently, only the operating of

the network is outsourced to IBM. Max knows that outsourcing would increase CompuNet's dependence on its partners. However it could provide cheaper hardware and software support or develop new software modules more efficiently.

Finally, Max wonders whether it would be possible to reduce cost further by having a shared database with suppliers and clients. Why is the same data stored and maintained in several places: at the suppliers', CompuNet's and the clients' sites? Could the operational details of 'Who would be in charge of the database, how could manipulation be excluded?' be solved so as to implement the shared database concept?

Max realises that most of the options he is considering would have a strategic impact on the company. He is concerned as to whether Jost would be willing to take up such a strong position at the next board meeting; he decides to think about an alternative solution.

### *An Alternative Approach*

For Max, CompuNet faces a dilemma: on the one hand, IT contributions are so crucial for the company that it is practically impossible to change the IT infrastructure; on the other hand, it would appear to be difficult to reduce costs without major changes in CompuNet's operating procedures. Could the current IT platform be used to leverage new business segments and thus increase the benefits at a given cost? So far, CompuNet has mainly targeted the service sector. Could further business opportunities lie in the areas of financing, or in the disposal and recycling of equipment? It certainly requires a major investment to succeed in these areas. Max remembers what Jost had recently told him:

It is a huge and exciting challenge in information management to keep track of the 90,000 PS of General Electric to take an extreme example, to know where they are, how old they are, to what extent they are used, when technical problems might occur, and so on. Neither should one underestimate the fact that the maintenance people do not speak the same language as the seller or the buyer.

CompuNet's IT infrastructure would seem to provide the flexibility needed to take advantage of such new opportunities. But would it be sufficient? Is it the right time to enter the on-site services and the outsourcing business and give up the concept of a clear and narrow focus, a focus that so far has been so successful?

## Outlook

Favouring his 'alternative approach', Max develops the outline of his report. But soon his initial enthusiasm about his findings fades away. Would his suggestion to keep the IT systems in place and leverage them to create new business opportunities convince a board that is concerned about the actual IT cost/benefit ratio? He decides to check with Jost whether his suggestion fits the broader CompuNet strategy. 'One future issue for CompuNet', says Jost,

will be to do everything to gain and maintain a low-cost position in logistics. Our new headquarters<sup>10</sup> with the central distribution centre is a major step in this direction. But what degree of centralisation or decentralisation will be optimal? Where and how does IT help us to reduce logistic costs, where does it create an extra burden? Another issue will be the development of the service segment. It is clearly our goal to become the number one player in the PC maintenance business. The third and last major issue is the ICG and the European market. Our IT investments have been significantly higher than those of our partners. Of course, that has caused numerous critical questions by the board members, especially when it comes to IT expenses.

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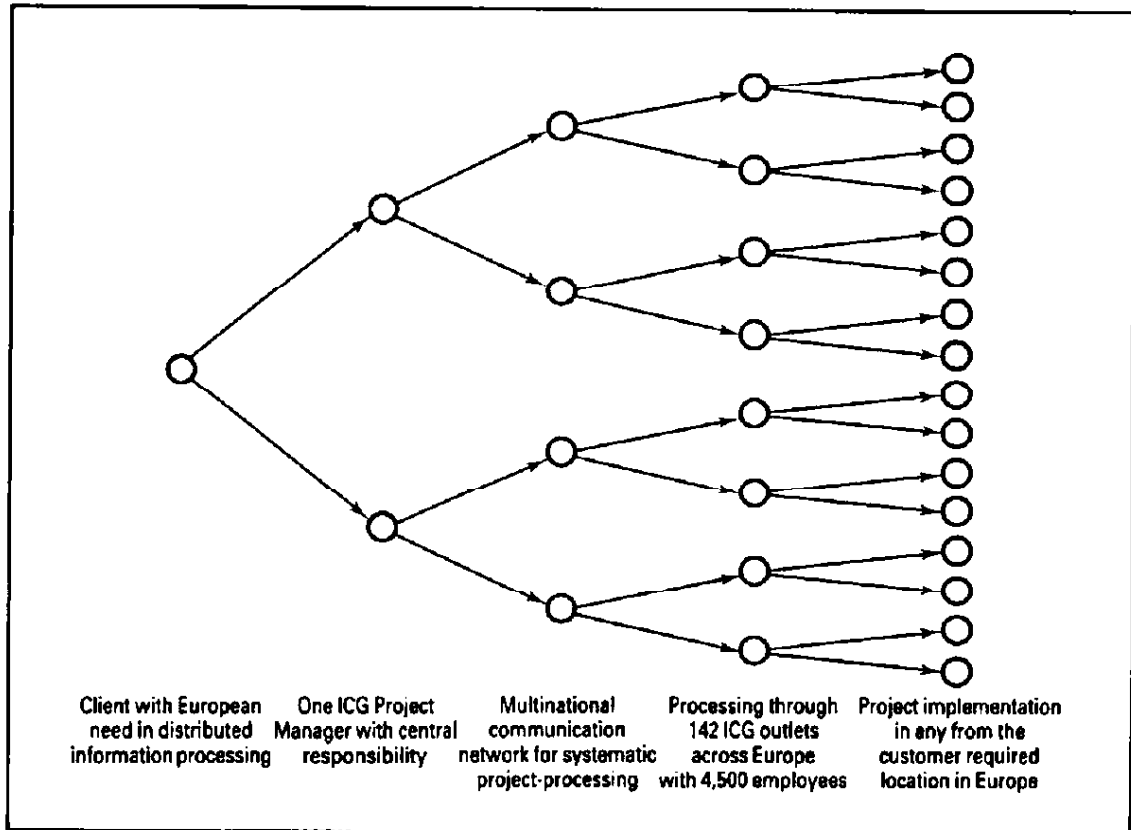
### THE INTERNATIONAL COMPUTER GROUP (ICG)

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In late 1989, with the advent of the unified European Market, CompuNet formed a strategic alliance with several other European firms resulting in the International Computer Group (ICG) with its headquarters near Paris. CompuNet AG, Computacentre Ltd. of the UK, and RANDOM S.A. of France, all among the most profitable IBM dealers in their respective home countries, are direct partners each owning one third of the shares, whereas the other companies<sup>11</sup> are linked via co-operation contracts.

ICG is designed to transform CompuNet's business and communication philosophy into a European network following the trend of internationalisation of large companies. It has been rapidly developing into one of Europe's largest IBM system networks with at least one partner in every EC country. Currently, ICG employs more than 4,500 people in 142 branches. In 1989, ICG sold 160,000 PS and reached a revenue of about FF 5 billion.

ICG's main task and potential lies in the co-ordination of the European activities of its national partners: on the purchasing side by obtaining products that are nationally in short supply; on the sales side by providing a European sales hotline and European project co-ordination (see Exhibit 16). Therefore,

**Exhibit 16** *The ICG approach to serve clients Europe-wide (source: ICG)*

ICG computer systems are focused on improving and optimising communication among the partners. 'We have the fundamental requirement to gain simultaneous access to multiple applications on multiple systems in different countries from our desktop', says Gareth Cadwallader, Head of Services and Support at Computacentre, former ICG General Manager.

The phone rings and Jost has to leave. Max knows that he must finish the report before he can have another chance to talk to him. What should he write? Would he have to describe ways to lower the IT costs to improve the overall cost situation in the crucial function of logistics? What measures should he suggest? Or should he even try to convince the board to increase the IT budget, to further pursue the preinvestment strategy, and to count on the new business opportunities leveraged through IT? Of course, the IT budget should be somehow related to the growth of the company. But what growth perspective should form the basis for his report? As Jost said the day

before to some journalists: 'I don't know how big we can grow and still retain our organisational structure and entrepreneurial spirit. All I know is that the question was put to me three and a half years ago when we were only the fifth of the size we are today and we haven't had any problem managing the growth so far.'

The only thing that Max is sure about is that his report should be clear and convincing for the board members . . .

## Notes

1. SAP stands for 'Systems, Applications and Products in Data Processing'.
2. 'The computer industry runs out of room', *The Economist*, June 29, 1991.
3. As of early 1992, CompuNet had acquired the following firms: MicroAge GmbH, Stubner Computer GmbH (both with head offices in Munich), Dr. Dohrenberg GmbH in Berlin, and DATA SERVICE.
4. The personal risk is high because the business is very competitive and the personal investment is high.
5. IBM's total sales decreased from DM 0.73 to DM 0.66 billion.
6. Source: *PC-Woche*, March 9, 1992; *Computer Reseller News*, April 13, 1992.
7. Cash management positions of the CompuNet companies are kept locally and consolidated at the holding level every evening.
8. All application modules run under the control of SAP's basic software system (DB/DC module) and are effectively separated from the operating environment at the customer's site. The individual system modules currently include Materials Management, Production Planning and Control, Product Costing, Invoice Verification, Plant Maintenance, Financial Accounting, Cost Accounting, Order Processing, Project Control and Management, Sales, Distribution, Invoicing, Personnel Administration and Payroll Accounting.
9. A second EDI link exists between CompuNet and the German credit insurance company HERMES; via this link, it sends specifications for each required credit insurance.
10. In Kerpen, 20 km outside of Cologne.
11. Other current shareholders are: DANADATA of Denmark, MCC of Belgium, Logic Control of Spain, RAET of the Netherlands, and ALSO of Switzerland.