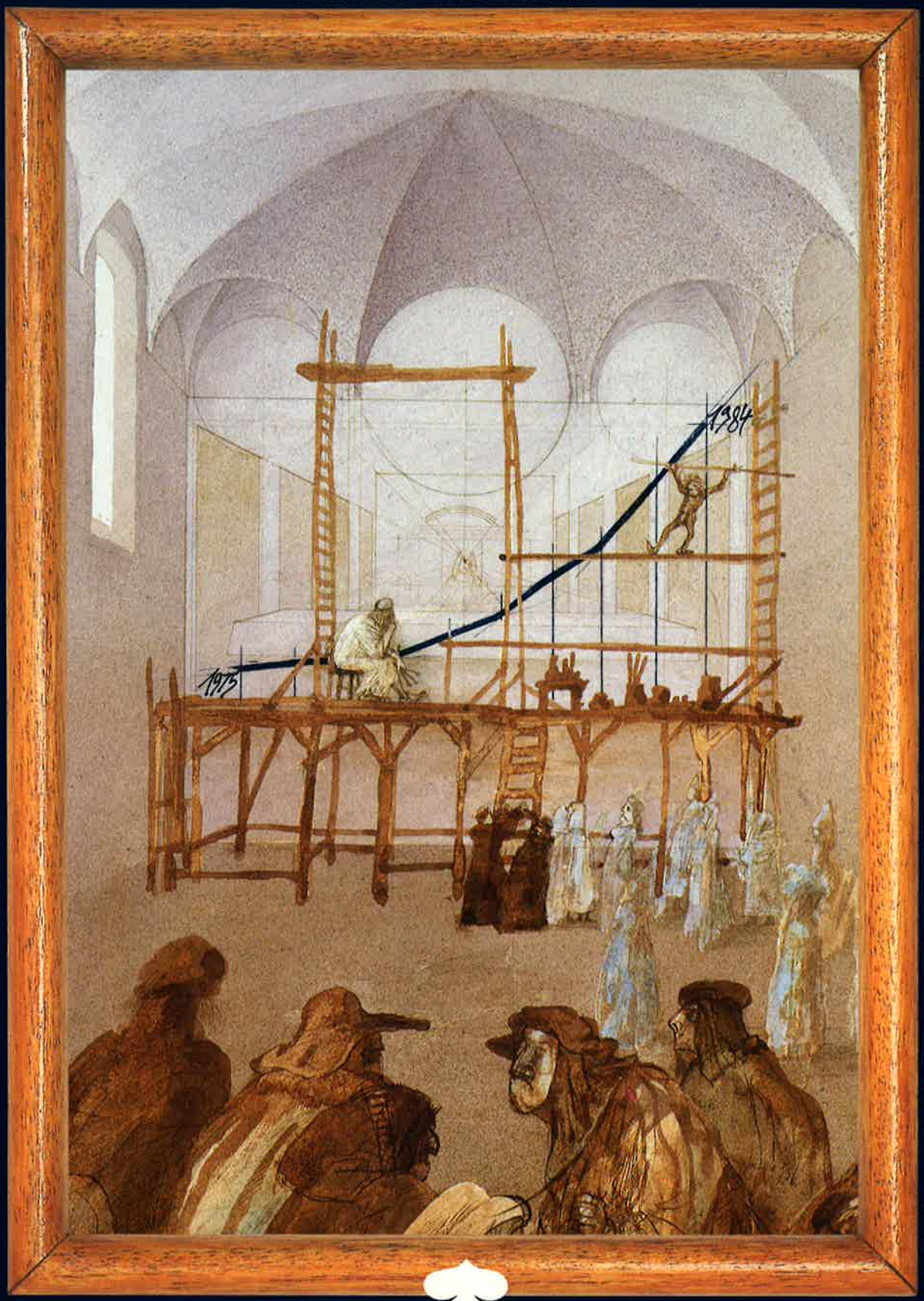
ANNUAL REPORT 1984



CAP GEMINI SOGETI

1984 Annual Report of 'CAP GEMINI SOGETI
A Data Processing Service Company

Summary of the Group's 1984 consolidated results

(after restructuring of the Holding Company)

TOTAL REVENUE:	**US $ 188 million**
NET INCOME:	**US $ 10 million**
TOTAL NUMBER OF EMPLOYEES : (As at December 31)	**4,534**

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CAP GEMINI SOGETI

Société Anonyme au capital de 65.250.000 F
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38005 GRENOBLE (FRANCE)

GROUP PORTRAIT

DP service and consulting

There are two major categories of DP service and consulting firms: those whose basic activity is made up of **software** services, and those whose activity concentrates on **computer-based** services.

Virtually all of CAP GEMINI SOGETI's operations involve software services which can assume the following three main forms:

- **DP consulting and assistance,** enabling users to make the most appropriate decisions when selecting new hardware and systems, or to get the most out of their existing DP resources.
- **Systems engineering,** i.e., implementation of DP solutions at once embracing applications software, DP hardware and telecommunications equipment in every area of activity: management, industrial process, networks, military systems, information distribution, etc.
- Design and implementation of **software products** acting either as components usable in multiple applications or as software development tools.

An independent Group

Controlled from the outset by its founding Chairman, the CAP GEMINI SOGETI Group's capital is today divided among:

- 200 Group managers, for a total of nearly 66 % of shares,
- Compagnie Générale d'Industrie et de Participations (CGIP), with a 33.5 % shareholding,
- some outside shareholders, selected from among the Group's friends, for slightly less than 1 % of capital.

Independence of judgment and action vis-a-vis any outside force – whether industrial, political or financial – is one of the Group's fundamental principles: for its customers, this is a guarantee of the objectivity of the Group's recommendations and options on their behalf. This is all the more important as these options can involve significant economic and social consequences.

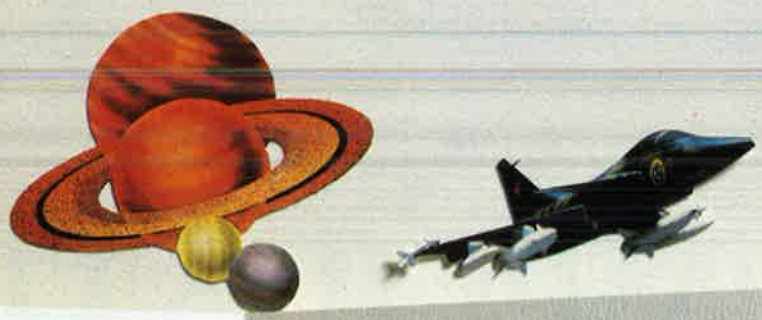
A team of Group-bred managers

CAP GEMINI SOGETI has an extremely straightforward structure, formed by a small headquarters staff and four operational groups: three groups separated on geographic lines (France, Europe, U.S.A.) and the Development Group.

Overall coordination is provided by two management bodies:

- The Executive Committee (currently seven members), which brings the Group's leading executives together with the Chairman of the holding company at bimonthly intervals, prepares major decisions affecting all Group subsidiaries and defines CAP GEMINI SOGETI's main strategic guidelines.
- The General Management Committee (currently 40 members), made up of the managers of the large operational units, which advises on general guidelines and discusses important technical and commercial topics of concern to the entire Group.

The drawings in this Annual Report have been taken from "Moi, Léonard de Vinci", by Ralph Steadman, published by Les Editions Aubier Montaigne.



An international Group

The Group's total 1984 revenues of US $ 188 million showed the following geographic breakdown: 43 % realized in France, 30 % in eight other European countries and 27 % in the U.S.A.

The Group's technical and marketing network embraces 18 operational companies, all of which are wholly-owned subsidiaries except in Great Britain, where the capital of IAL GEMINI is equally shared with International Aeradio Ltd. (IAL). These 18 companies cover ten countries:

- In France, where CAP GEMINI SOGETI employs 2,300 people in 20 cities, activities (consulting and engineering, operations assistance, training, research, software products) and economic sectors (government, banking and insurance, manufacturing, etc.) are divided among eight companies.
- In Europe, nine subsidiaries with a total of 1,300 employees cover eight countries: The Netherlands (with two subsidiaries), Federal Republic of Germany, Belgium, Spain, Great Britain, Norway, Sweden and Switzerland.
- In the U.S.A., CAP GEMINI DASD employs 1,000 people in 20 branches scattered throughout the nation.

Projects carried out in countries other than the ten in which the Group has one or more subsidiaries are always conducted through the intermediary of one of these companies, often in association with firms specializing in engineering or heavy export.

The branch: cornerstone of CAP GEMINI SOGETI's organization

The branch is the Group's basic operational unit. Branches are "human-sized", i.e.,

- small enough (averaging 50 professionals) so that the branch manager can personally know each of his customers and each of his professionals.
- big enough to enable its manager to assume responsibility for his resources and his results.

The branch covers a well-defined territory, whether this involves an economic sector (as for the Paris region in France, where the Group has 19 branches) or a geographic sector. Branches benefit from the Group's full stockpile of knowhow, thanks to organized technical exchanges. Branches are grouped into companies or "regions," which are in turn consolidated into three operational groups.

The "branch" concept assures CAP GEMINI SOGETI's customers of personalized attention matching their individual personalities and their specific problems. Moreover, it enables Group companies to grow "naturally" through proliferation of branches. Finally, it provides CAP GEMINI SOGETI with a means of "real-time" familiarity with the needs and problems of DP systems users, and – thanks to this understanding – of orienting its medium-term development.

New technological skills

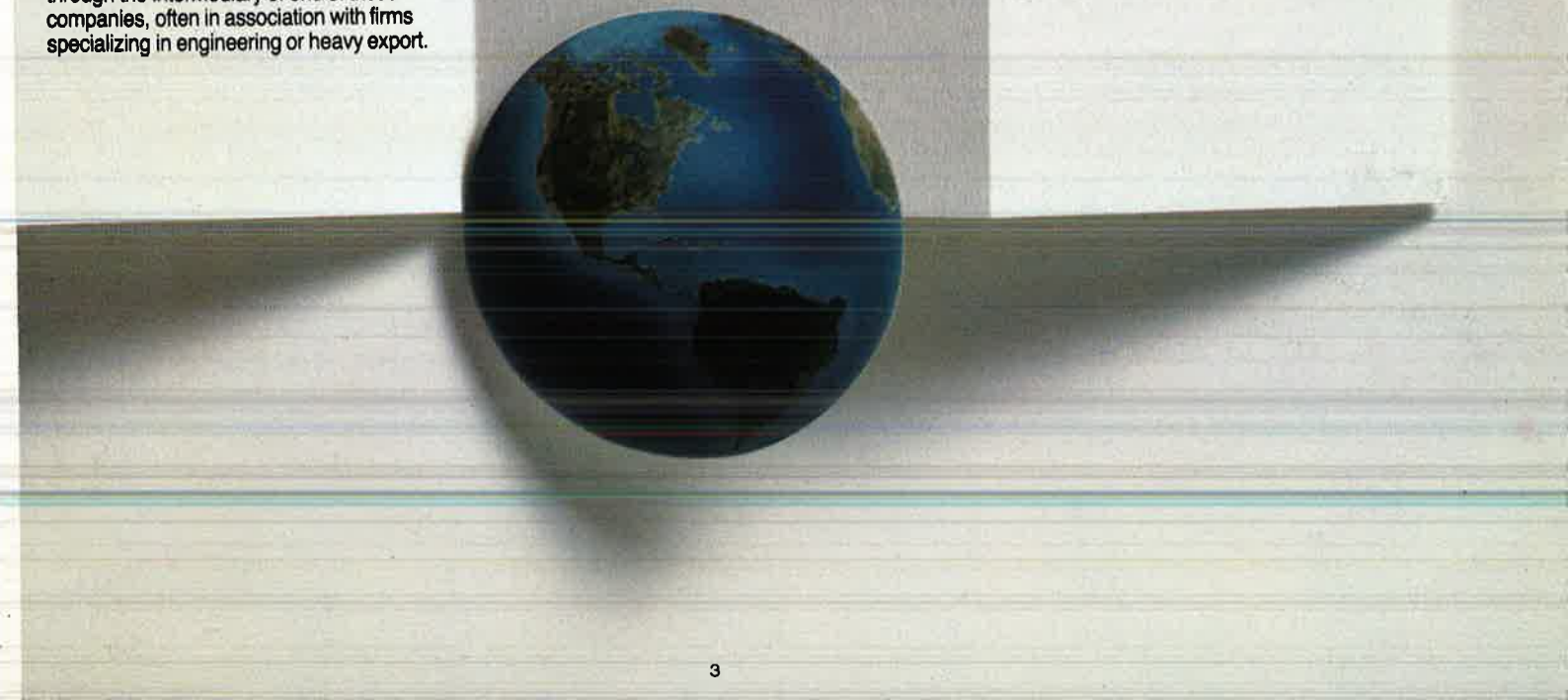
Regardless of the size and complexity of the project, CAP GEMINI SOGETI's professionals carry a "technical toolkit" assembled in the course of 15 years' experience and thousands of successful jobs.

To begin with, software engineering tools and methods: methodologies for drawing up master plans and for systems development, tools integrated into an ensemble – the MULTIPRO software engineering workshop – for "automated" use.

Next, applications development aids ranging from the analysis guide to the ready-made program. The latter type includes our "Standard Application Modules," covering the main areas of day-to-day management.

Finally, basic tools for new technologies: the MULTITEL line of videotex systems, technological developments originating in France's Electronic Directory project, electronic directories for business and industry, graphic editors, expert system implementation techniques, etc.

A sustained research and development effort, representing about 5 % of Group revenue annually, is devoted to the updating and expansion of this technological arsenal.



1975-1984, AN UNCOMPLICATED HISTORY

was always most firmly entrenched — that internal growth has led to the strongest increase in business volume: sales have grown from FF 110 million in 1974 to FF 774 million in 1984. In a market showing such rapid change as with data processing (note that the terms "information technology," "office automation" or "computer-integrated manufacturing" did not even exist in 1974), it comes as no surprise that Group management found it necessary to reshape the organization of its French operations in order to set the stage for rapid, lasting growth. As a result, two restructurings have taken place, the first on 1 January 1980 and the second on 1 January 1984. Each has led to a change in the size and territory of each of the operational companies, with the goal — achieved, it appears — of setting up a true "structure for development" capable of serving our famous bull market.

And it is true that the DP software service market is a buoyant one. For the past ten years, market analysts have been announcing annual growth rates that never fall below 20 %. The main task facing the Group's management team has thus been one of "managing growth": consolidation of the European network, sustained growth of each operational unit and significant penetration of the American market have been the chief products of this management. Results obtained in a context which has itself been anything but calm: ceaseless burgeoning of technical innovations, each making its predecessor obsolete; invention of new modes of distribution; unforeseen alliances; interference by certain governments, etc. All events to which our Group has been able to adapt itself while continuing "to hang onto its past sources of strength, to resist the temptation of high-flying digressions, to foster its ambition to perform high-quality work for its customers and to provide its employees with rewarding careers in one of the most exciting occupations that today's world has to offer"(*).

(*) from the "Letter from the Executive Chairman" in the 1982 Annual Report.

GUARDING OF INDEPENDENCE: *THE DUTY OF PROFITABILITY*

Since its origins and through thick and thin, the CAP GEMINI SOGETI Group has asserted its determination to remain independent. Independent of political force, independent of financial force, independent of industrial force — especially that wielded by the computer manufacturers. Independence with two goals: to exist free of any limitations other than those we impose upon ourselves (e.g., the obligation to do business only under conditions of the strictest honesty), to make our decisions or to formulate our recommendations free of any constraint whatsoever. What is the worth of the advice given by a service company which is not strictly independent of every DP hardware vendor? What exemplary value can be read into the decisions of a service firm subject to the whims of an investor or a government agency? For the managers of CAP GEMINI SOGETI, then, independence is the ***absolute prerequisite of the trade they exercise, as they intend to exercise it.*** *But strength of will alone is not enough to bring independence: you also have to be profitable. Profitable, so that no favors have to be negotiated, so that growth can be self-financed, so that strategy can be laid down independently. Whence the extreme concern for maintaining the Group's profitability, at a level compatible with the growth rate imposed by the market; whence the care taken never to adventure into investments out of proportion with the Group's own capabilities; whence the indifference shown to fads and fancies; whence the years of research effort carried out to guide a strategy which is at once agressive and prudent. This determination to be profitable — and to remain so — is thus first and foremost the expression of yet another determination — one might even say an obsession — to be and to remain independent.*

1975/1984: *all in all, a straightforward story that the following pages will chronicle in a more factual manner: statistics, graphs, some important dates in our history and in that of the world which surrounds us. After all, things have really happened during those ten years...*

10 YEARS OF GROWTH

CAP GEMINI SOGETI has published the Group's consolidated balance sheet and income statement annually since 1975. These accounts are drawn up in accordance with the recommendations of the IASC (International Accounting Standards Committee), standards adopted due to the international nature of the Group's activities, and they are subjected to thorough verification by an international audit firm whose certification is also published in the Annual Report.

All of the financial data advanced and analyzed in the following pages have been taken from documents published by the Group since 1975.

10 YEARS OF HISTORY IN A HANDFUL OF FIGURES

(In thousand of US Dollars) (1)	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984 (4)
Consolidated total revenue (less VAT)	23,564	26,072	30,550	38,574	47,464	60,500	85,769	107,068	146,449	188,053
Global growth rate (over preceding year)	+ 25.5 % (2)	+ 10.6 %	+ 17.2 %	+ 26.3 %	+ 23.0 %	+ 27.5 %	+ 41.8 %	+ 24.8 %	+ 36.8 %	+ 28.4 %
Breakdown of revenue by geographic region:										
• France	16,180	16,247	19,208	25,760	32,394	41,511	46,850	53,890	68,100	80,711
• Europe	7,384	9,825	11,342	12,747	14,715	18,425	24,294	27,076	37,432	56,596
• USA	—	—	—	67	355	564	14,625	26,102	40,917	50,746
Net income after taxes	851	980	1,128	1,588	2,281	3,075	4,479	5,370	7,541	9,993
Net profitability	3.61 %	3.76 %	3.69 %	4.12 %	4.81 %	5.08 %	5.22 %	5.02 %	5.15 %	5.31 %
Dividends paid	169	183	248	355	532	780	1,152	1,613	2,252	(4)
Number of shares	135,000	135,170	340,000	340,000	340,000	340,000	442,000	442,000	540,000	652,500
Net income per share of common stock (in dollars)	6.31	7.26	3.32	4.67	6.71	9.04	10.13	12.15	13.97	15.31
Shareholders' equity after distribution	5,387	5,996	6,671	7,372	8,497	10,867	13,907	18,844	27,659	34,738
• Total number of employees at 31 December of year	1,950	2,010	2,121	2,317	2,725	3,104	3,577	3,995	(3) 3,957	4,534
• of which: engineers & technicians	1,602	1,657	1,815	2,003	2,332	2,636	3,003	3,345	3,324	3,832

(1) Based on the exchange rate of December 31, 1984: $ 1 = FF 9.59

(2) Reference total revenue: US $ 18.769 million less VAT, in 1974 (reconstituted).

(3) After transfer of the data entry activity (365 employees) on 1 March, 1983

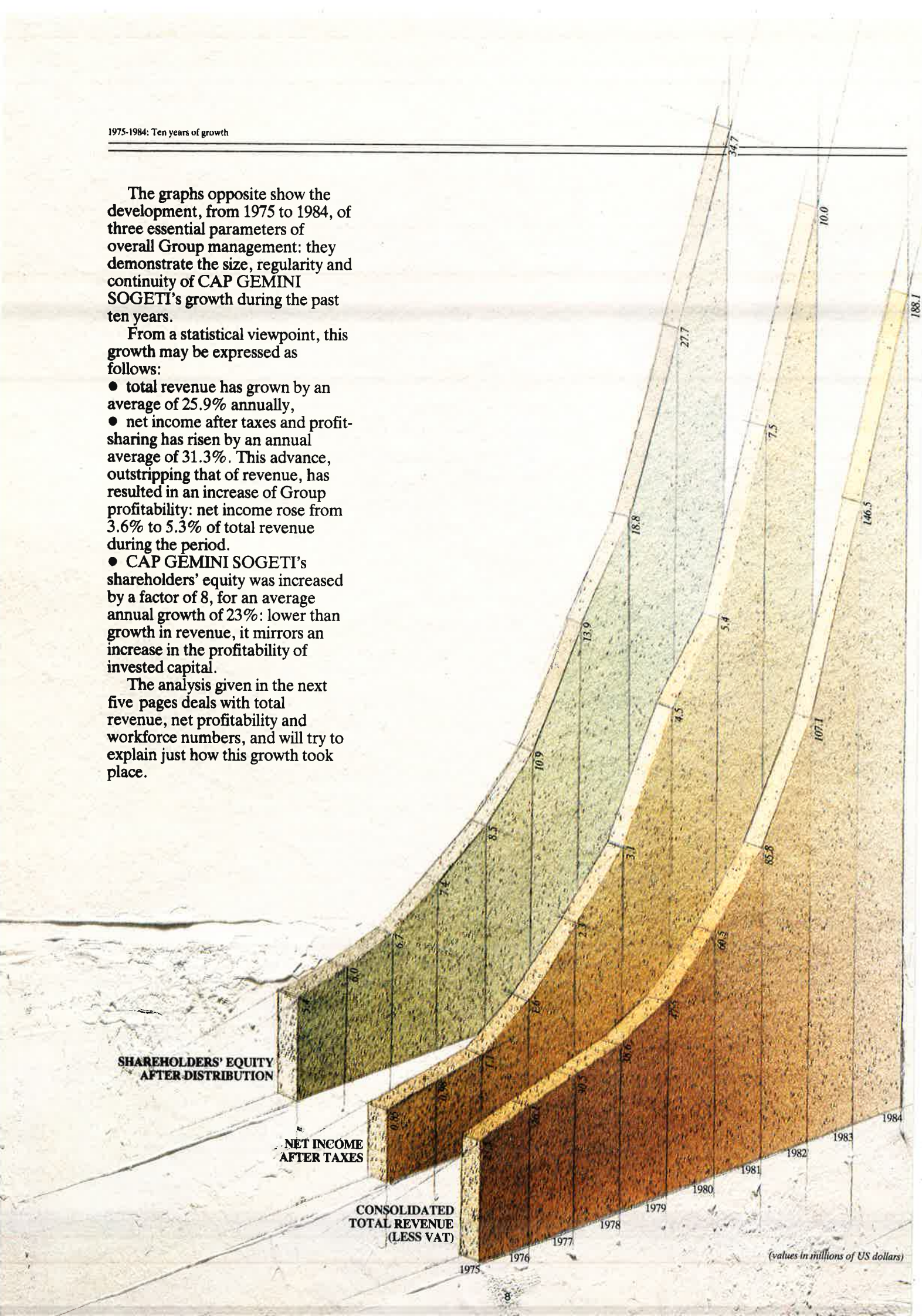
(4) Figures **after** modifications in the Group's legal structure on 31 December 1984, which had the following two main effects:
- the number of shares increased from 540,000 to 652,500 due to formation of the new holding company by means of partial contribution of assets,
- total dividends for 1984 are not significant insofar as the shareholders decided in March 1985 that, to facilitate restructuring operations, the dividend paid would be decreased by one-half of the planned dividend of 3.38 million US dollars.

The graphs opposite show the development, from 1975 to 1984, of three essential parameters of overall Group management: they demonstrate the size, regularity and continuity of CAP GEMINI SOGETI's growth during the past ten years.

From a statistical viewpoint, this growth may be expressed as follows:

- total revenue has grown by an average of 25.9% annually,
- net income after taxes and profit-sharing has risen by an annual average of 31.3%. This advance, outstripping that of revenue, has resulted in an increase of Group profitability: net income rose from 3.6% to 5.3% of total revenue during the period.
- CAP GEMINI SOGETI's shareholders' equity was increased by a factor of 8, for an average annual growth of 23%: lower than growth in revenue, it mirrors an increase in the profitability of invested capital.

The analysis given in the next five pages deals with total revenue, net profitability and workforce numbers, and will try to explain just how this growth took place.



1 / ANALYSIS OF TOTAL REVENUE

Virtually the entirety of CAP GEMINI SOGETI's revenue is derived from billing for software services. This billing can take two chief forms:

- invoicing for time passed by technicians on a project (time-and-materials contracts),
- fixed price stipulated by contract.

This billing is supplemented by other revenue, primarily from sales of program products. Hardware sales might also be involved, but this case is extremely rare, as CAP GEMINI SOGETI's policy in this regard has remained unchanged for ten years: the Group does not want to sell hardware or receive "commissions," as it would be acting as an intermediary between its customer and the hardware vendor. Duly-justified exceptions aside, the Group recommends that its customers make their purchases directly from the vendors. This policy is an added pledge of the Group's independence and impartiality.

From a historic standpoint, the list of main sources of income would be incomplete if we failed to add revenue from processing activities (computer time in service bureau operations, data entry), which represented between 3% and 5% of the volume of Group operations until Sorinfor was sold in 1981, and the data entry activity in 1983.

We should also note that revenue for Groupe Bossard (FF 300 million in 1984) and for SESA (FF 735 million in 1984) is not included in the figures for the Group despite CAP GEMINI SOGETI's significant investments in both (49% and 42%, respectively), with only their net incomes – positive or negative – accounted for on the equity basis.

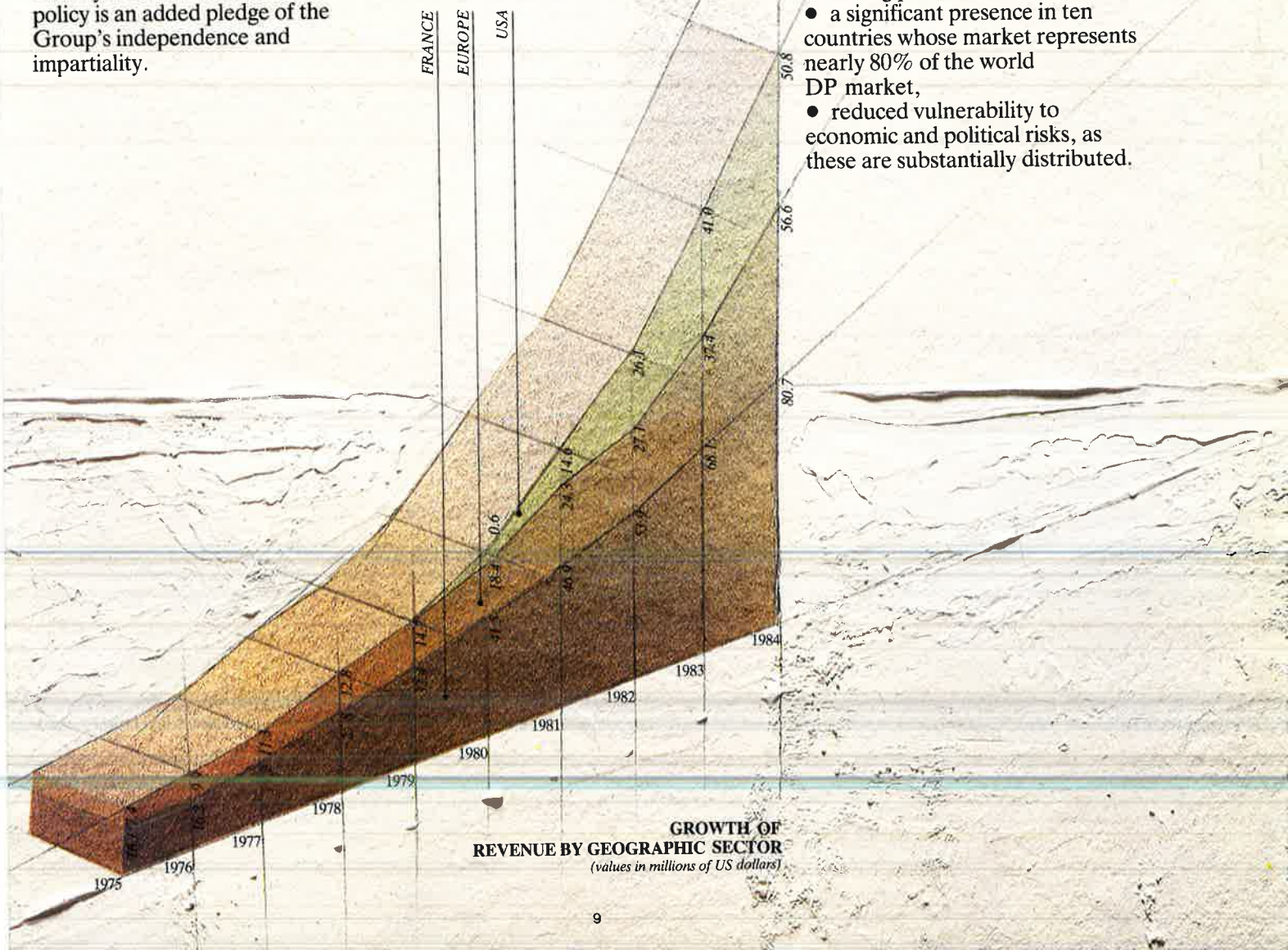
GEOGRAPHIC ANALYSIS

The diagram below clearly shows the growing proportion of the Group's total revenue realized outside of France:

- thanks to the Europe Group's favorable growth rate, which represented 31% of the total in 1975, and which still accounted for 30% in 1984,
- thanks to significant new operations in the USA, through our 1981 and 1982 acquisitions: as a result of these companies' growth and the rise of the dollar, our American operations – nonexistent until 1979 – accounted for 27% of CAP GEMINI SOGETI's 1984 revenue.

Consequently, the "non-French" share of Group business, which accounted for 31% of the total in 1975, represented 57% in 1984. The result of a carefully-deliberated strategy, this situation offers the following pair of advantages:

- a significant presence in ten countries whose market represents nearly 80% of the world DP market,
- reduced vulnerability to economic and political risks, as these are substantially distributed.



GROWTH OF REVENUE BY GEOGRAPHIC SECTOR
(values in millions of US dollars)

REAL GROWTH

Revenue of US $ 18.8 million in 1974, US $ 188 million in 1984: this is a neat tenfold increase in ten years, for **an average annual growth rate of 25.9%.**

What is the breakdown of this 25.9% growth figure?

Although the countries in which CAP GEMINI SOGETI is present are among the most stable in the world, the increase in the cost of living between 1974 and 1984 has been substantial in most of the Western nations: during this period, for example, consumer prices increased by a factor of 1.7 in Holland, 2 in the USA and 2.7 in France. So it is not surprising to observe – as shown in the graph below – that, of the 25.9% mean annual growth in Group revenues, average inflation (i.e., weighted by country and by year as a function of revenue realized each year in each country) alone accounted for 8.7% **Adjusted for inflation, then, this leaves a growth of 17.2%.**

Another source of "interference" to complicate analyses of growth is the variation of foreign exchange parities. From this standpoint, the 1974-1984 period was primarily characterized by a rapid rise of the dollar against the other Western currencies: in ten years, the English pound has lost 50% of its value – and the French franc 54% – expressed in dollars. As CAP GEMINI SOGETI's consolidated accounts are expressed in French francs, the exchange-rate variation has had a positive effect on the apparent development of revenue. This effect, measured as indicated above for inflation, averaged 1.7% over the period. If we exclude the effects of these "monetary" sources of growth, we are left with an average **growth in volume, (or at constant currency), of 15.5% annually.**

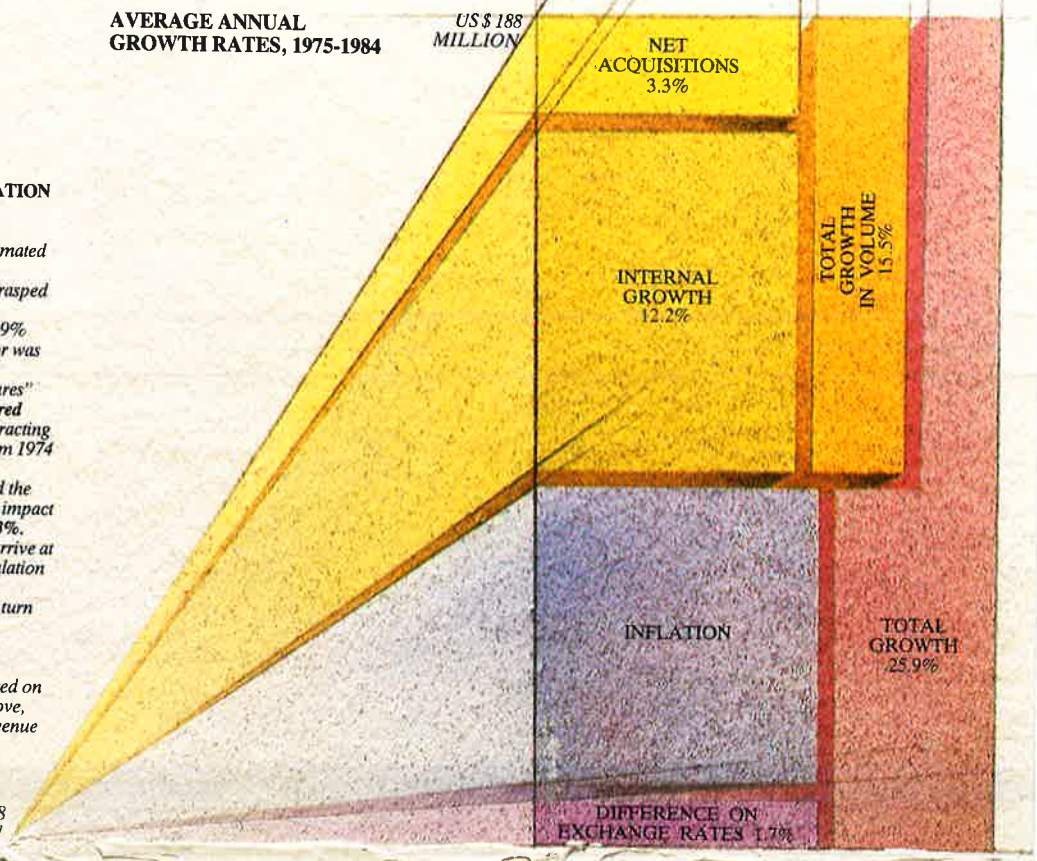
We can go on to decrease this real growth rate by the amount of revenue derived from acquisitions or, more precisely, the difference between acquisitions and divestitures occurring during the period. In the case of CAP GEMINI SOGETI, we are talking about a) acquisitions in Norway (Data Logic in 1980) and the USA (DASD in 1981, Spiridellis in 1982) and b) sale of Sorinfor in 1981 and the data-entry activity in 1983. In the above growth percentages, acquisitions account for 4.2% and sales for 0.9%.

The **internal growth rate** (i.e., the growth rate attributable over the period to the structure existing in 1975 and still operational in 1985), stripped of inflation, the effects of exchange-rate variations, acquisitions and divestitures, comes out at **12.2%** annually.

We can summarize as follows:

real growth rate, at constant structures	+ 12.2 % annually
+ net balance, acquisitions/divestitures	+ 3.3 % annually
= growth rate in volume (or at constant currency)	+ **15.5 % annually**
+ weighted average inflation	+ 8.7 % annually
+ effect of variations in exchange rate	+ 1.7 % annually
= announced growth rate	+ **25.9 % annually**

AVERAGE ANNUAL GROWTH RATES, 1975-1984



EXPLANATORY NOTE FOR CALCULATION OF "REAL GROWTH"

*The effects of growth factors have been estimated by an **additive** approach (as shown in the table opposite) in order to yield figures more easily grasped separately than multiplicative rates.*

A global average annual growth rate of 25.9% having been determined, the effect of each factor was obtained by successive steps:

- *a "growth rate, less acquisitions and divestitures" was calculated by substracting revenue of **acquired** companies from 1984 total revenue and by subtracting revenue of **divested** companies and activities from 1974 total revenue.*

*The difference between this growth rate and the 25.9% global figure permitted estimation of the impact of "net acquisitions" at an annual average of **3.3%**.*

- *a similar calculation was next performed to arrive at the effect of exchange rate variations. This calculation yielded a "growth rate, less net acquisitions and exchange rate variations" of 20.9% annualy, in turn leading to an estimated impact of exchange rate variation at: 25.9 – 3.3 – 20.9 = **1.7%** (annual average).*
- *finally, the average inflation rate was calculated on the basis of OECD sources and as indicated above, i.e., by country and by year, as a function of revenue realized annually in each country.*

ANALYSIS BY ECONOMIC SECTOR

The graph and the table below show the distribution of total revenue among six major economic sectors: the table, by operational group for 1983; and the graph, for the overall Group, for three of the ten financial years of the period (1976, 1980, 1983).

First off, these figures clearly indicate that CAP GEMINI SOGETI's activity is thoroughly distributed, with no one sector holding a particular lion's share. This is not surprising in view of the fact that the Group's wishes have always been to provide service adapted to the specific features of local demand, to be as close as possible to users and, consequently, to create a very dense technical and marketing network.

This is reflected in the establishment and development of a large number of branches (nearly 100 as of this writing) and in the substantial number of projects handled: about 22,000 in ten years (a "project" ranging from a study on a DP center's security to the implementation of a data transmission system for a large multinational company). This policy has led the Group to make its techniques and skills available to users belonging to all sectors of the economy.

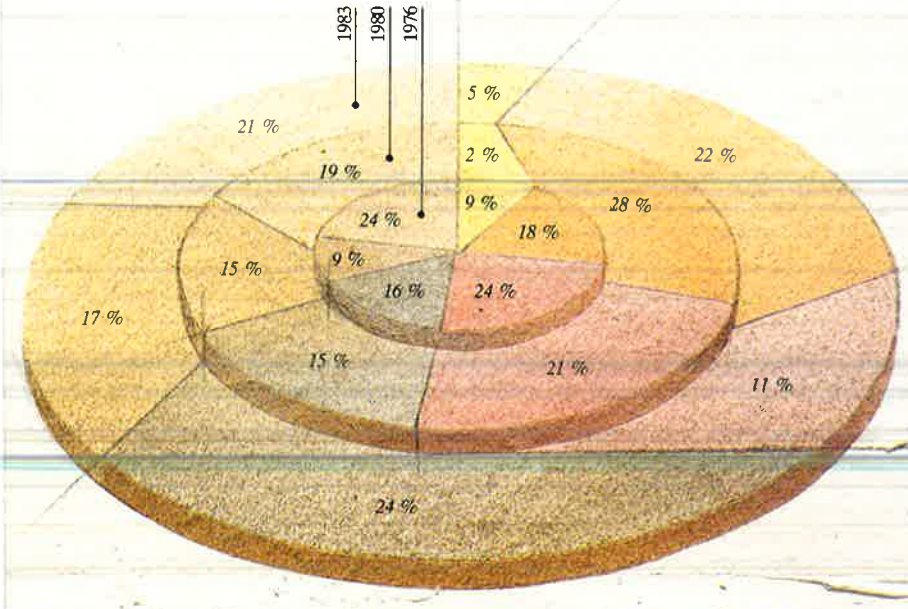
It should also be pointed out that all economic sectors make intensive use of DP systems and services, although with goals differing in accordance with available technologies, individual priorities and the specific circumstances of every region of the world.

Routine management applications – already computerized in virtually all large and medium-sized businesses – are thus going to be automated everywhere else, thanks to the microcomputer: this is a particularly sensitive phenomenon in the sectors of agriculture (Sector 1) and business (Sector 5). The industrial sectors (Sectors 2 and 3) are currently in a phase of striving for competitiveness: they are investing heavily in computer-aided design and manufacturing resources. The banking sector (Sector 4) is already highly automated, but a huge program of DP work remains to be carried out. Electronic funds transfer will not become a reality until security problems have been solved and until the many participants in the money circuit have been equipped with necessary hardware. The introduction of new financial services – necessary to bank's financial equilibrium – requires that DP systems for managing the transactions of the mass of future customers be implemented in advance, and so on. Government agencies (Sector 6), whose roles vary from country to country, must confront two apparently-contradictory imperatives: a) set up the infrastructures required for communication of information between their various departments and sections, and b) spend less and interfere less in the economy.

Having made these general observations, we can now offer several specific comments on the graphs opposite:

- The share of services (Sectors 4, 5 and 6) was much larger than that of industry (Sectors 1, 2 and 3) in 1983 – 62% vs. 38% – whereas these shares were more balanced in 1980 and 1976. There are two reasons for this: generally speaking, the growing share of service activities in the Western economies and – more specifically to CAP

HISTORIC DEVELOPMENT OF THE BREAKDOWN OF CAP GEMINI SOGETI REVENUE BY ECONOMIC SECTOR



1983 DISTRIBUTION BY OPERATIONAL GROUP

SECTORS		France	Europe	U.S.A.
1	Primary production	9 %	2 %	1 %
2	Manufacturing industries	22 %	23 %	21 %
3	Other industry *(incl. DP industry)*	13 %	7 %	10 %
4	Banking and insurance	25 %	16 %	30 %
5	Other services	15 %	19 %	20 %
6	Government and public services	16 %	33 %	18 %

2 / ANALYSIS OF WORKFORCE

GEMINI SOGETI – significant revenues earned in the USA as of 1981, in which the share held by services was larger than elsewhere.

- The "banking and insurance" and "other" services showed substantial growth for the same reasons, increasing from 16% to 24% and from 9% to 17%, respectively, between 1976 and 1983.
- Contrary to what one might believe, the "government" and "DP industry" sectors (the latter normally representing the largest share of miscellaneous industry potential for DP services), which together accounted for one-half of 1976 business volume (24% each), added up to only 32% in 1983. With regard to France, it is interesting to note that these two sectors accounted for only 29% of 1983 revenue, and "government" in this country carries the least weight within total Group revenue: only 16%, in contrast to 18% in the USA and 33% in Europe as a whole.

Those Group employees whose main job is to implement customer projects are categorized as "engineers and technicians" in the graph opposite. "Other employees," most of whom also are (or have been) DP professionals, are those exercising marketing, technical support, management or administrative functions.

As the graph shows, the proportion of "other employees" within the total workforce averages 16%, with slight variations from year to year, and an overall two-point improvement over 1975.

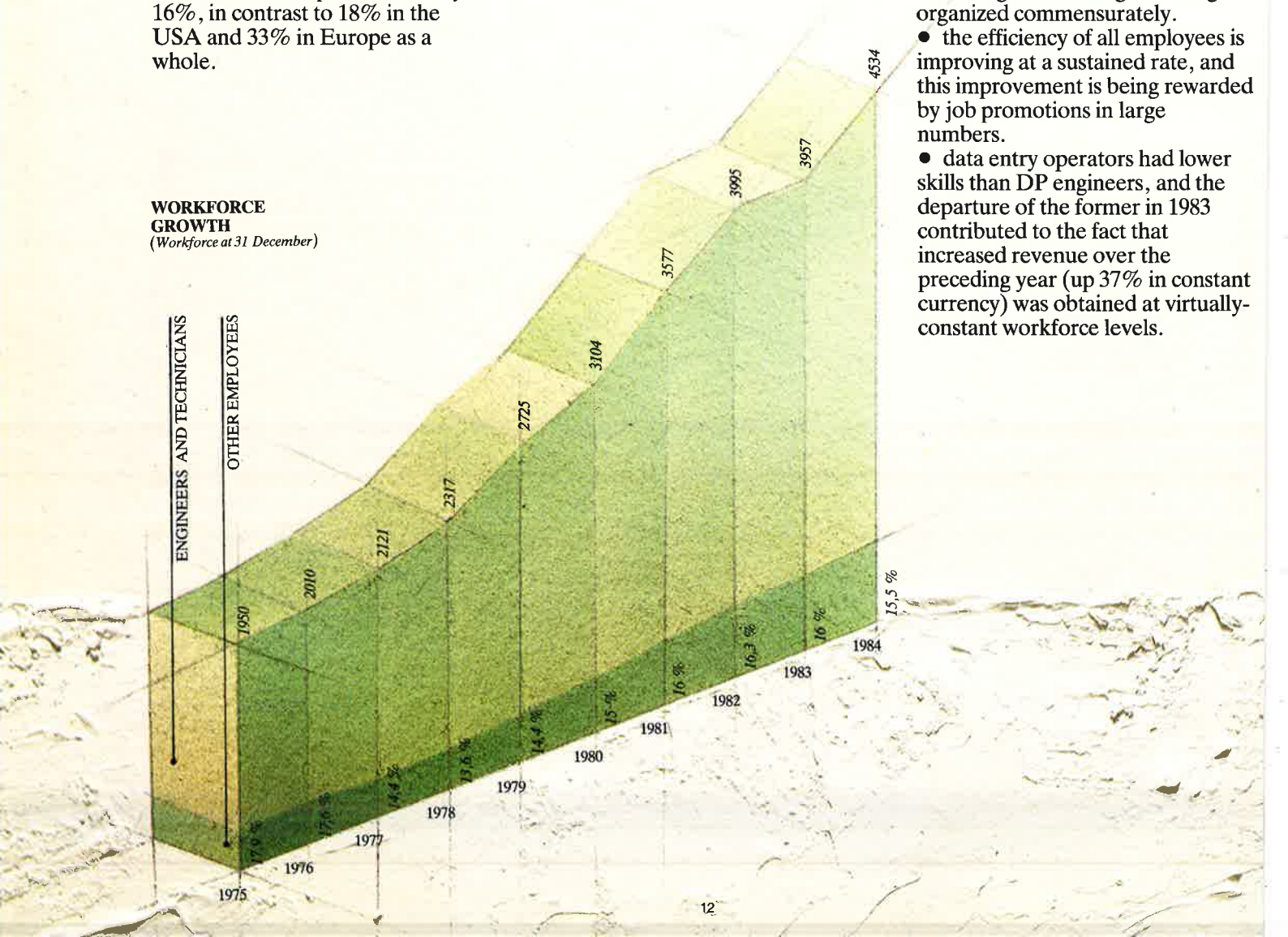
Two major irregularities may also be noted in the evolution of the Group workforce: strong growth in 1981, resulting from the incorporation of the 400 employees of DASD that year, and a plateau in 1983, a year in which an increase in the workforce for other activities just offset the loss of employees due to divestiture of the data entry activity (365 employees).

Moving on, we should stress the following two essential facts:

1) going from 1,850 employees on 1 January 1975 to 4,534 employees as of 31 December 1984, CAP GEMINI SOGETI's total workforce grew by an average 9.4 % annually. This increase is very palpably smaller than that of total revenue in constant currency (14.5%: see graph on page 10). The reasons for this difference:

- the average skill level of engineers and technicians is rising at a regular pace from one year to the next, as the Group's operations are in increasing proportions involving large-project management, high-level consulting, and new and increasingly-sophisticated techniques... while recruiting and training are being organized commensurately.
- the efficiency of all employees is improving at a sustained rate, and this improvement is being rewarded by job promotions in large numbers.
- data entry operators had lower skills than DP engineers, and the departure of the former in 1983 contributed to the fact that increased revenue over the preceding year (up 37% in constant currency) was obtained at virtually-constant workforce levels.

WORKFORCE GROWTH
(Workforce at 31 December)



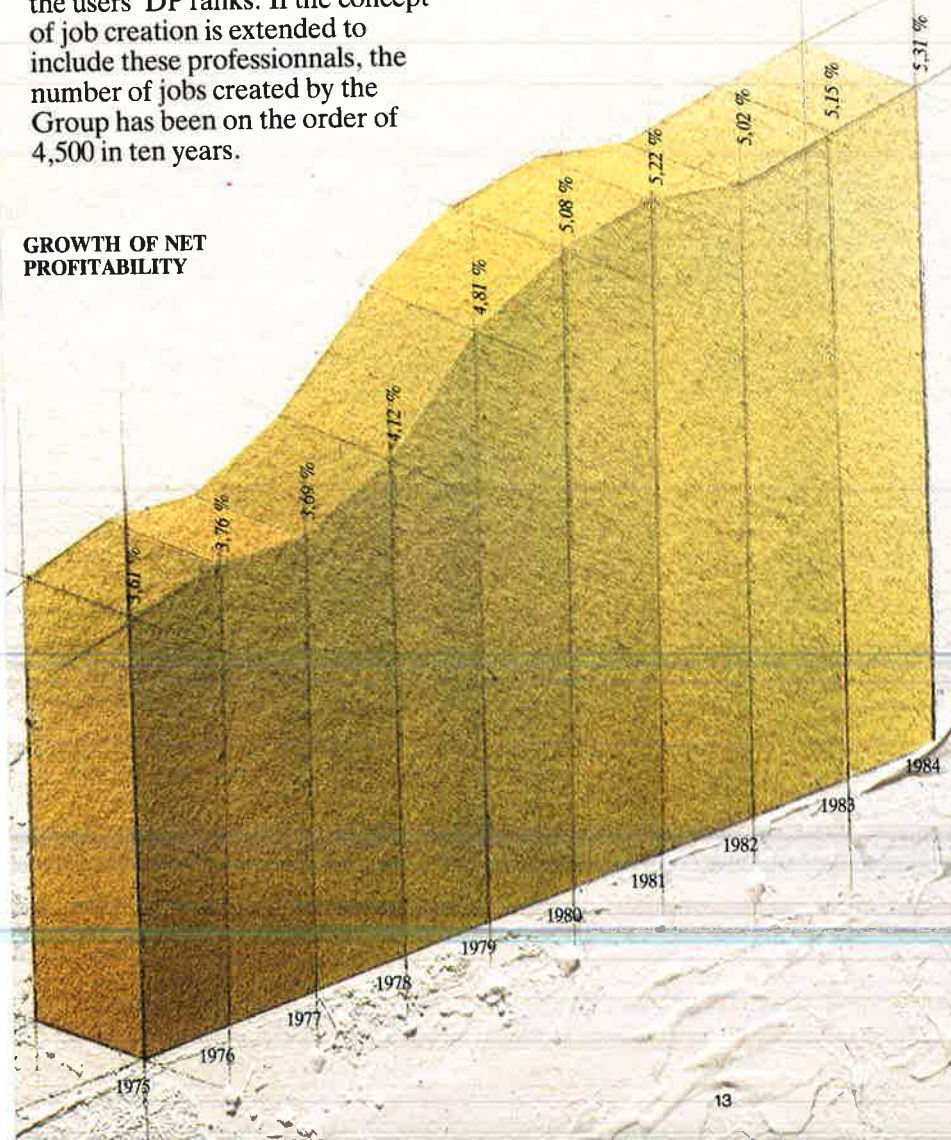
2) CAP GEMINI SOGETI created many new jobs during the period. From the strictest – and thus the most irrefutable – standpoint, the net number of jobs created may be calculated as follows: closing workforce (4,534) *minus* beginning workforce (1,850) *minus* workforce of acquired companies at the time of acquisition *plus* workforce of divested activities at the time of divestiture. This calculation gives at net result of **2,480 jobs created in ten years.**

But one can rightly take into account the fact that 15% of the Group's engineers and technicians depart each year, that 70% of these leavetakers go to work for users and that 70% of all hiring involves young people. This means that CAP GEMINI SOGETI is selecting and training a significant number of young people who, after having acquired a few years' experience, are going on to swell the users' DP ranks. If the concept of job creation is extended to include these professionnals, the number of jobs created by the Group has been on the order of 4,500 in ten years.

Expressed as the percentage of net balance-sheet income (that is, after taxes and profitsharing) in total revenue, the Group's profitability has grown over the past ten years as illustrated by the graph opposite. This growth has been regular – going from 3.6% to 5.3% – with the exception of two occasions: in 1977, when net revenue increased by 15% and in 1982, when profitability dropped slightly behind the previous year's figure due to the acquisition of Spiridellis, whose profitability was lower than that of other operational units (installation of the Group's technical and financial management procedures has had its desired effect, as CAP GEMINI SOGETI's net profitability resumed its growth in 1983).

Obviously, the profitability of a group like CAP GEMINI SOGETI is a function of factors such as personnel motivation, careful management, the matching of services and products to market demand, resistance to temptation, ability to innovate and, generally speaking, maintenance of a harmonious balance between contradictory demands. As for these contradictory demands, we might cite operational control vs. decentralization, implementation of as many projects as possible vs. time required for advanced technical training of our professionals, attention to the development and consolidation of existing acquisitions vs. conquest of new territories. As for the temptations to which fortune subjects the Group, they are typical of the phase of expansion now being experienced by DP as a whole, the most frequent being opportunities to invest management time and money into various fields of software service. As faithful lovers say, though, there's no merit in withstanding these temptations unless they genuinely arouse desire...

GROWTH OF NET PROFITABILITY



IN 10 YEARS, THE CAP GEMINI SOGETI GROUP HAS:

- ***increased its total revenue by a factor of 10***
- ***increased its net income by a factor of 15***
- ***paid FF 330 million in corporate income tax***
- ***created 2,480 new jobs***

From a technical standpoint, this decade may be characterized by the realization of virtually all of the concepts and projects which had germinated in the minds of DP professionals during the preceding 20 years. Some striking examples:

- new forms of data organization, from the indexed-sequential to the automatically-managed database,
- direct information access by end users,
- decentralization of processing in large user organizations,
- public data communications networks,
- computers within the reach of small business and the professions,
- electronic funds transfer,
- image processing (computer-aided design, graphics, animation),
- substantial increase in MTBF (mean time between hardware failures).

A decade mirrored in the Group's Annual Reports

1975

While our Group has replaced its attitude of conquest with a mature attitude towards planned growth, we have not forgotten, nor will we forget, our "duty to expand."

1976

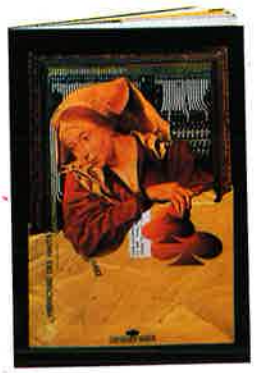
Microcomputers whose "chips," fitting on a fingertip, will soon be a part of man's daily life.

1977

Companies of a truly international scope also acquire and develop unique qualities thanks to their encounter with a diversity of languages, customs and ways of thought.

1978

The task of the computer professionals is to penetrate the interface between human and computer language.



1979

Any company's true field of application is situated where its operational units are in contact with the market... The importance of this point of contact has led CAP GEMINI SOGETI to make its highly-independent Branches the "lowest common denominator" of its organization.

1975 1976

Events in CAP GEMINI SOGETI's history

1975

- **1 January:** CREATION OF THE CAP GEMINI SOGETI GROUP (1,850 employees).
- **31 July:** At the eleventh hour, CISI acquires a controlling interest in EURINFOR (on top of its 34 % investment in July 1975).
- **29 August:** C.A.P. and its former English partners of CAP UK are divorced, their joint subsidiaries falling under control of the CAP GEMINI SOGETI Group.
- **17-20 October:** CAP GEMINI SOGETI's IXth Rencontres held in Istanbul: 270 participants.
- Delivery of a data communications network to CNES (French National Space Research Center).
- **25 November:** In Paris, Mr. Hugues de l'Estoile, French Director General for Industry, awards the "Prestige de la France" diploma to the Chairman of CAP GEMINI SOGETI before an audience of 800.

1976

- **1 January:** Founding of CAP SOGETI EXPLOITATION.
- **5 January:** Michel Jalabert enters the CAP GEMINI SOGETI Group as General Secretary.
- Development of first Standard Application Modules from compatible programs implemented for small business applications on small IBM computers.
- **1 February:** Installation of Group General Management at 17, avenue George V, Paris.
- **2 May:** Publication of 1975 Annual Report, first for the CAP GEMINI SOGETI Group.
- Implementation by CAP GEMINI SOGETI of a microcomputer-based hot-house climate control system meeting specific plant requirements.
- **14 December:** CAP GEMINI SOGETI acquires shareholding in Groupe BOSSARD.

Events in the Group's technological and industrial environment

1975

- Design of the PROLOG programming language for the symbolic manipulation of artificial intelligence data.
- Invention of the floppy disk by Sirjang Lal Tandon in Los Angeles.
- HONEYWELL takes over Xerox' mainframe DP clientele.
- APPLE COMPUTER, Inc. is born... in a garage.
- **12 May:** Announcement of creation of CII-HB, merging CII's mainframe DP activities with those of HONEYWELL BULL.
- **19 December:** Official dissolution of the UNIDATA (CII - PHILIPS - SIEMENS) partnership.

1976

- Commissioning in Chicago of first time-division telephone switching system (WESTERN ELECTRIC'S ESS), and production in France of first CIT-ALCATEL E-10 time-division switches.
- Announcement of first software spreadsheet (VISICALC), enabling untrained users to process tabular numerical data by microcomputer.
- CRAY RESEARCH produces its first supercomputer, the Cray 1.
- Founding of MICROSOFT and DIGITAL RESEARCH companies in the U.S.A.
- In France, SEMS created by merger between a TELEMECANIQUE division and CII's minicomputing division.

Events in the political and economic world

1975

- **10 March:** Upswing of the dollar on all money markets: quoted at FF 4.25 in Paris.
- **25 March:** King Feisal of Saudi Arabia assassinated by one of his nephews.
- **30 April:** Fall of Saigon, evacuation of US forces and end of the Vietnam War.
- **5 June:** Reopening of the Suez Canal, closed for eight years.
- **5 June:** First referendum in the history of Great Britain: 67 % "yes"votes for membership of the EEC.
- **30 July:** Helsinki Conference on European security.
- **20 November:** Death of General Franco in Spain.

1976

- **4 February:** 25,000 dead and 80,000 injured by violent earthquake in Guatemala.
- **24 March:** In Argentina, a military junta deposes Isabel Peron.
- **17 July:** XXI Olympic Games open in Montreal.
- **24 August:** Gold hits rock bottom: $103 per ounce in London.
- **25 August:** In France, Valéry Giscard d'Estaing names Raymond Barre to replace outgoing Prime Minister Jacques Chirac.
- **9 September:** Death of Mao Tse-tung.
- **19 September:** In Sweden, the Social Democrats defeated after 44 uninterrupted years in office.
- **2 November:** Jimmy Carter elected 39th President of the United States, defeating incumbent Gerald Ford.

1977

■ **1 January:** Christer Ugander named President of CAP GEMINI SOGETI's Europe Division, replacing Len Jacoby.
■ CAP GEMINI SOGETI begins participation in research on videotex technologies for French National Telecommunications Research Center (CNET).
■ **21-24 April:** CAP GEMINI SOGETI' Xth Rencontres held in Amsterdam: 150 participants.
■ **1 October:** Tenth birthday of SOGETI, the Group's parent firm, founded in Grenoble by Serge Kampf.
■ **28 October:** The French government declines to authorize CISI to sell its 34 % investment in CAP GEMINI SOGETI to an American service firm.

■ Creation, in France, of the ANTIOPE videotex standard.
■ APPLE announces availability of its microcomputer.
■ DIGITAL EQUIPMENT revenues top the billion-dollar mark.
■ Founding of ITT Data Systems, specializing in computer peripherals.
■ IBM launches its "Series 1" of conventionally-structured, 16-bit minicomputers.

■ **27 March:** 583 dead in collision of two Boeing 747s in Canary Islands.
■ **13 July:** A giant power failure paralyzes New York City for 25 hours.
■ **22 July:** Second rehabilitation of Teng Hsiao-ping, who becomes China's most powerful overlord.
■ **17 August:** The North Pole reached for the first time by an icebreaker, the Soviet vessel "Arktina."
■ **19 November:** President Sadat's historic visit to Jerusalem.
■ **22 November:** Concorde makes first regular Paris-New York flight.

1978

■ **1 January:** CAP GEMINI Inc. established in Washington, D.C.
■ **9 January:** Death of Georges Vernais, a co-founder of Sogeti in 1967.
■ **11 January:** First meeting of CAP GEMINI SOGETI's new Executive Committee: seven years later, its makeup (7 members) remains unchanged.
■ Commissioning of Dutch PTT's telephone information system, capping a five-year study by CAP GEMINI SOGETI's local subsidiary.
■ **8 March:** CAP GEMINI SOGETI closes its branch office in Iran.
■ **14-17 September:** CAP GEMINI SOGETI's XIth Rencontres held in Munich: 185 participants.
■ **25 November:** 100th operational installation of CPL1 language compiler enabling programs to run on different computer makes.
■ **1 December:** A Chinese delegation, led by the Minister of Industry of the People's Republic of China, pays a day-long visit to CAP GEMINI SOGETI's Grenoble headquarters.

■ Development of PROSPECTOR, an expert system applied to mineral prospecting, by the Stanford Research Institute in California.
■ **20-23 June:** 1st World Convention of DP Service Companies, in Barcelona, Spain.
■ IBM's consolidated revenue exceeds $ 20 billion and its accelerated growth rate is confirmed.
■ **21 December:** Official opening of TRANSPAC, the first French public data communications network.
■ The word "telematics" – European equivalent of "information technology" – coined with publication of the Nora-Minc Report ("The Computerization of Society") in France.

■ **16 March:** In Italy, kidnapping of Aldo Moro, assasinated on 9 May by the Red Brigades.
■ **19 March:** In France, the Left loses the legislative elections (198 deputies out of 491) despite prognoses and surveys to the contrary.
■ **25 June:** Argentina wins the soccer "Mundial" by beating The Netherlands 3-1.
■ **29 September:** Death of Pope John Paul I, 26 days after his consecration.
■ **16 October:** Gold soars, with bullion selling for FF 30,900 per kilogram in Paris.
■ **22 October:** For the first time since 1522, a non-Italian becomes Pope, taking the name John Paul II.
■ **18 November:** Mass suicide of 923 members of a sect in Jonestown, Guyana.

1979

■ **1 January:** Founding of CAP SOGETI ESPAÑA.
■ **6 January:** A proposal to give the Group a more "marketable" name than "CAP GEMINI SOGETI" is rejected.
■ For NASA, conduct of a study on information processing requirements of the Kennedy Space Center in the USA.
■ **28 June-1 July:** CAP GEMINI SOGETI's XIIth Rencontres, held in Monte Carlo: 230 participants.
■ **1 September:** Jean-François Dubourg joins the CAP GEMINI SOGETI Group.
■ **September:** In France, the General Telecommunications Directorate confirms its intention to create a "industrial nucleus" of DP and information technology services.
■ **25 October:** International Aeradio Ltd. (IAL) acquires 10 % shareholding in CAP GEMINI SOGETI, with founding of a joint subsidiary, IAL GEMINI, in Great Britain.
■ **December:** Delivery of launch control software for first flight of Ariane satellite launch vehicle, following many other Group contributions to this project.

■ **January:** IBM announces its new line of mid-range 43XX computers, to replace its 360/370s.
■ Design of high-level ADA programming language to meet the US Department of Defense's requirements for universality and portability.
■ Inauguration in London of the British experimental interactive videotex system, VIEWDATA.
■ **28 September:** Close of "DP and Society" Colloquium in Paris.
■ **24 December**: First launch of the European satellite vehicle Ariane.

■ **16 January**: The Shah of Iran leaves Teheran, where the Ayatollah Khomeiny arrives on 1 February.
■ **26 March**: Sadat and Begin sign the Israeli-Egyptian peace treaty in the presence of Jimmy Carter in Washington, D.C.
■ **4 May**: Margaret Thatcher becomes Prime Minister of Great Britain.
■ **26 June:** The liner "France" is sold to a Norwegian shipowner for $ 18 million.
■ **18 July:** The Sandinistas assume power in Nicaragua.
■ **3 December**: The dollar quoted at FF 4.035 in Paris.
■ **26 December:** Soviet forces enter Afganistan.

1980

■ **1 January:** The Group's French software service activities consolidated into three companies, specialized by market (CAP SOGETI SYSTEMES, CAP SOGETI LOGICIEL, CAP SOGETI EXPLOITATION), instead of four.
■ **6 February:** CAP GEMINI SOGETI's XIIIth Rencontres, scheduled for November in Marrakech, are cancelled.
■ **30 April:** Acquisition of DATA LOGIC in Norway.
■ **8 May:** CAP SOGETI LOGICIEL receives official confirmation that French General Telecommunications Directorate is tasking it to implement the Electronic Directory.
■ **13 June:** The French PTT Minister, Norbert Segard, chairs an "Information Technology Day" held by CAP GEMINI SOGETI in Lille.
■ **9 September:** CISI sells its 34 % interest in CAP GEMINI SOGETI to a banking pool led by Crédit Lyonnais.
■ Development of a computerized system for management of interpreter and meeting-room scheduling for the European Commission's Interpreting-Conference Department.

■ In France, the General Telecommunications Directorate decides to create a computerized telephone directory service.
■ **29 April:** France and the Federal Republic of Germany agree on joint construction and launching of two TV satellites as of 1984.
■ **23-26 June:** 2nd World Convention of DP Service Companies in San Francisco.
■ **13 November:** The American space probe, Voyager 1, flies by Saturn and takes photos which upset all existing theories about the planet.
■ **28 November:** Europe delivers the first of the SPACELAB space laboratories to NASA.
■ **6 December:** NASA launches the INTELSAT V satellite, handling 12,000 simultaneous telephone calls between the U.S.A. and Europe.

■ **21 January:** Gold is selling for $843 an ounce in London.
■ **23 March:** 58 % "yes" votes in the Swedish referendum on nuclear power.
■ **4 May:** Marshal Tito dies in Yugoslavia.
■ **16 May:** In Athens, 11 Mediterranean countries sign an agreement to fight pollution of the sea.
■ **17 July:** Military coup d'état in Bolivia, the 189th since 1824.
■ **19 July:** The XXII Olympic Games open in Moscow.
■ **22 September:** Iran and Irak go to war; both capital cities bombarded and oil deliveries interrupted.
● **4 November:** Ronald Reagan elected President of the United States with a ten-point lead over Jimmy Carter.
■ **7 December:** Record prime lending rate in the U.S.A.: 21 %.

1981

■ **22 January:** Acquisition of DASD, a significant step in CAP GEMINI SOGETI's US market penetration.
■ **30 April-4 May:** First trip (to Marrakech) by the "110 % Club", for branch managers who achieved their preceding year's budgets by at least 110 %.
■ **15 June:** Michel Berty appointed President of the Group's American operations (and assumes functions on 10 August).
■ **18-21 June:** CAP GEMINI SOGETI's XIIIth Rencontres held in London: 240 participants.
■ **6 August:** CAP GEMINI SOGETI completes its withdrawal from processing activities by selling SORINFOR, its last subsidiary specializing in this field.
■ Implementation of a computerized system for monitoring the Producer Price Index, for the US Department of Labor.
■ **8 December:** Alain Lemaire appointed President of the France Group.

■ The Japanese Ministry of Industry launches the national "fifth-generation computer" project.
■ First very large scale integration (VLSI) circuits.
■ IBM announces its PC microcomputer and launches its own telecommunications satellite (SBS), in association with COMSAT and AETNA, an American insurance company.
■ ATT announces a new videotex standard, NAPLPS (North American Presentation Level Protocol Standard).
■ Development of CP/M (Digital Research) and MS/DOS (Microsoft) microcomputer operating systems, which become industry standards.

■ **20 January:** After 444 days of detention, the 52 American hostages are freed in Teheran.
■ **30 March:** Attempt on life of Ronald Reagan in Washington.
■ **13 April:** First launching of the "Columbia" space shuttle.
■ **10 May:** François Mitterrand elected President of France with 52 % of votes.
■ **13 May:** Attempted assassination of John Paul II, in St. Peter's Square.
■ **7 June:** Björn Borg wins the tennis internationals at Roland Garros, Paris, for the sixth time straight.
■ **6 September:** President Anwar Sadat assassinated during military ceremony in Cairo.
■ **17 October:** Bicentennial of French-American victory over British at Yorktown, Virginia.
■ **13 December:** The military seizes control in Warsaw.

1982

■ **1 January:** Restructuring of CAP GEMINI SOGETI into four main operational groups (France, Europe, USA, Development).
■ **12 February:** MULTITEL videotex product line placed on market.
■ **10 March:** Project to list CAP GEMINI SOGETI shares on stock market suspended indefinitely.
■ **1 May:** Acquisition of SPIRIDELLIS and ASSOCIATES Inc. (New York and New Jersey).
■ **2 June:** Market launch of the MULTIPRO software engineering workshop line by CAP SOGETI INSTRUMENTS (Group company created on 1 January and specializing in software products).
■ **17 June:** Cocktail party to celebrate two birthdays: Sogeti's fifteenth and C.A.P.'s twentieth.
■ **15 October:** CGIP (Compagnie Générale d'Industrie et de Participation) acquires interest in CAP GEMINI SOGETI capital.
■ **15 November:** Bernard Lorimy, ex-Chairman of ADI (Agence de l'Informatique) joins the CAP GEMINI SOGETI Group.
■ **8 December:** CAP GEMINI SOGETI acquires shareholding in SESA (workforce 1,200).
■ The Group's total revenue passes the billion-franc mark, and CAP GEMINI SOGETI achieves – on schedule – its five-year-old goal of realizing one-half of its revenue outside of France.

■ **20-23 June:** 3rd World Convention of DP Service Companies held in Copenhagen.
■ ATT/PHILIPS agreement on telecommunications.
■ Antitrust suit against IBM ended.
■ EDS, a US service firm, is awarded a $656 million contract by the US Department of Defense.
■ Swedish data processing consolidated around L.M. ERICSSON.

■ **2 April:** The Argentine armed forces land on the Falkland Islands.
■ **14 June:** Death of King Khaled of Saudi Arabia, succeeded by his half-brother, Prince Fahd.
■ **21 August:** Death of Sobhuza II, King of Swaziland, after a 60-year reign.
■ **3 September:** General Dalla Chiesa murdered by the Mafia in Palermo.
■ **1 October:** In the Federal Republic of Germany, a "constructive vote of no confidence" topples Chancellor Helmut Schmidt (SPD), replaced by Helmut Kohl (CDU).
■ **10 November:** Death of Leonid Brezhnev, succeeded by Yuri Andropov, former KGB chief.
■ **26-28 November:** Davis Cup finals in Grenoble, France (with the US beating France 4-1).

1983

■ **4 February:** In Saint Mâlo, the French PTT Minister inaugurates the Electronic Directory system, for which CAP GEMINI SOGETI was prime contractor.
■ **17 February:** Decision to create a "Development Committee" headed by Michel Jalabert.
■ **1 March:** Sale of the Group's data entry activity (365 employees), marking CAP GEMINI SOGETI's departure from all operations other than software services.
■ **21 April:** Decision to reduce the CAP GEMINI SOGETI Group's hierarchic structure to four levels (instead of five).
■ Announcement of new Standard Application Modules: ACTION, stock-market order management software; TRANSFERTS, registered securities management software; GIL, property rental management software.
■ **1-4 September:** Europe Group holds first "Rencontres" in Madrid.
■ **2-4 November:** CAP GEMINI SOGETI's Collège Informatique holds its first seminar in the USA (Los Angeles).

■ **3 January:** TIME magazine names the personal computer as its "1982 Man of the Year."
■ First mission by the SPACELAB shuttle.
■ First validation of an ADA compiler (produced by ROLM) by the US Department of Defense.
■ **14 September:** The San Francisco Examiner announces the bankruptcy of the OSBORNE. microcomputer company.
■ **November:** Record number of exhibitors (5,000!) at the COMDEX computer show in Las Vegas.
■ APPLE posts a billion-dollar sales figure, while IBM's consolidated net income goes over the $5 billion hurdle.

■ **17 January:** Nigeria expels one million illegal immigrants.
■ **14 March:** OPEC meeting in London lowers oil prices by 15 %.
■ **28-30 May:** Summit meeting at Williamsburg, Virginia.
■ **1 September:** Soviet fighters shoot down a South Korean Boeing 747 with 269 passengers on board.
■ **5 October:** Nobel Peace Prize awarded to Lech Walesa.
■ **23 October:** "Suicide" trucks in Beirut: 239 Americans and 58 French soldiers killed.
■ **25 October:** American troops land in Grenada.
■ **14 November:** The dollar quoted at FF 8.47 in Paris (up from FF 6.60 on 10 January).

1984

■ **1 January:** Contrary to rumors about consolidation into a single company, CAP GEMINI SOGETI divides its French activities between six firms, three of which (INDUSTRIE, TERTIARE and INNOVATION) are newly created.
■ **February:** CAP GEMINI SOGETI and CGIP Finally decide not to set up the "Micro-computer software distribution company" they had envisaged creating in common.
■ **1 March:** Establishment of an "European Conversion Center" in Munich.
■ **12 April:** The Executive Committee awards the 1980-1983 "Oscar" for Group General Managers to Rémi Donneaud, Chairman of CAP SOGETI EXPLOITATION.
■ **21-24 June:** CAP GEMINI SOGETI's XIVth Rencontres are held in Bad Homburg, FRG: 160 participants.
■ **14 November:** CAP GEMINI SOGETI receives an order for 500 MULTIPRO software engineering workstations from Banque Nationale de Paris (BNP).
■ **22 November:** The Group decides to launch a new DP plan. Prime goal: make the most advanced communications resources available for exchange of technical and commercial information between the Group's branches.
■ **27 November:** Acceptance of the Strathclyde (Scotland) Fire Department command and control system, turnkey-delivered by CAP GEMINI SOGETI.
■ **December:** One of the European ESPRIT program's first research projects (on artificial intelligence) assigned to a consortium including CAP GEMINI SOGETI.

■ **1 January:** As a result of "deregulation" ruled by th US government, ATT companies operating local telephone systems are detached from the parent firm and become independant entities.
■ **28 February:** Official inauguration of the ESPRIT European research program.
■ **11-13 June:** 4th World Convention of DP Service Companies in Tokyo.
■ **20 November:** BRITISH TELECOM "privatized", with 51 % of its capital sold by the British government.
■ GENERAL MOTORS buys a DP service firm (EDS) for $2.2 billion (3.5 time its 1983 sales volume).
■ Standard Telephone and Cables (STC) takes over British computer manufacturer ICL.

■ **14 February:** Death of Yuri Andropov, succeeded by Constantin Tchernenko.
■ **11 April:** In Melbourne, birth of a child developed from a frozen embryo.
■ **24 June:** Over one million demonstrators in the streets of Paris in support of private schools.
■ **28 July:** Grandiose opening ceremony for the XXIII Olympic Games in Los Angeles.
■ **31 October:** Assassination of Indira Gandhi, Prime Minister of India, in Delhi.
■ **6 November:** Triumphant reelection of Ronald Reagan, with 59 % of votes and a majority in 49 out of 50 states.
■ **3 December:** Thousands of victims in leakage of toxic gas from a pesticide plant in Bhopal, India.

None of this would have been possible without the advances made during this period in the technology of electronics, advances reflected especially in the substantial increase – at constant cost – of memory capacities, in the reduction of access and computing times (both diminished by a factor of 1,000), in the appearance of new terminals (graphics, color, "touch-screen," the "mouse," etc.) and in virtually-absolute operational security. Software professionals have immediately exploited all of these new possibilities, both to improve existing applications and to develop new ones.

Just what new concepts born between 1975 and 1985 will give rise to so many concrete achievements? Will videotex or expert systems, for example, keep their promises of today? Only the future will tell...

1980

The world's computer service companies registered 1979 sales totalling 19 billion dollars... It is interesting to note that this sales volume exceeds the corresponding figures for civil aviation, machine building and household appliances.

1981

Software service houses strongly contribute to technical progress both through their software innovations and their active participation in the development of a whole range of new applications.

1982

But if it's not enough to be in a boom market in order to prosper, there's nothing to say you can't take advantage of this situation to whet your appetite for enterprise.

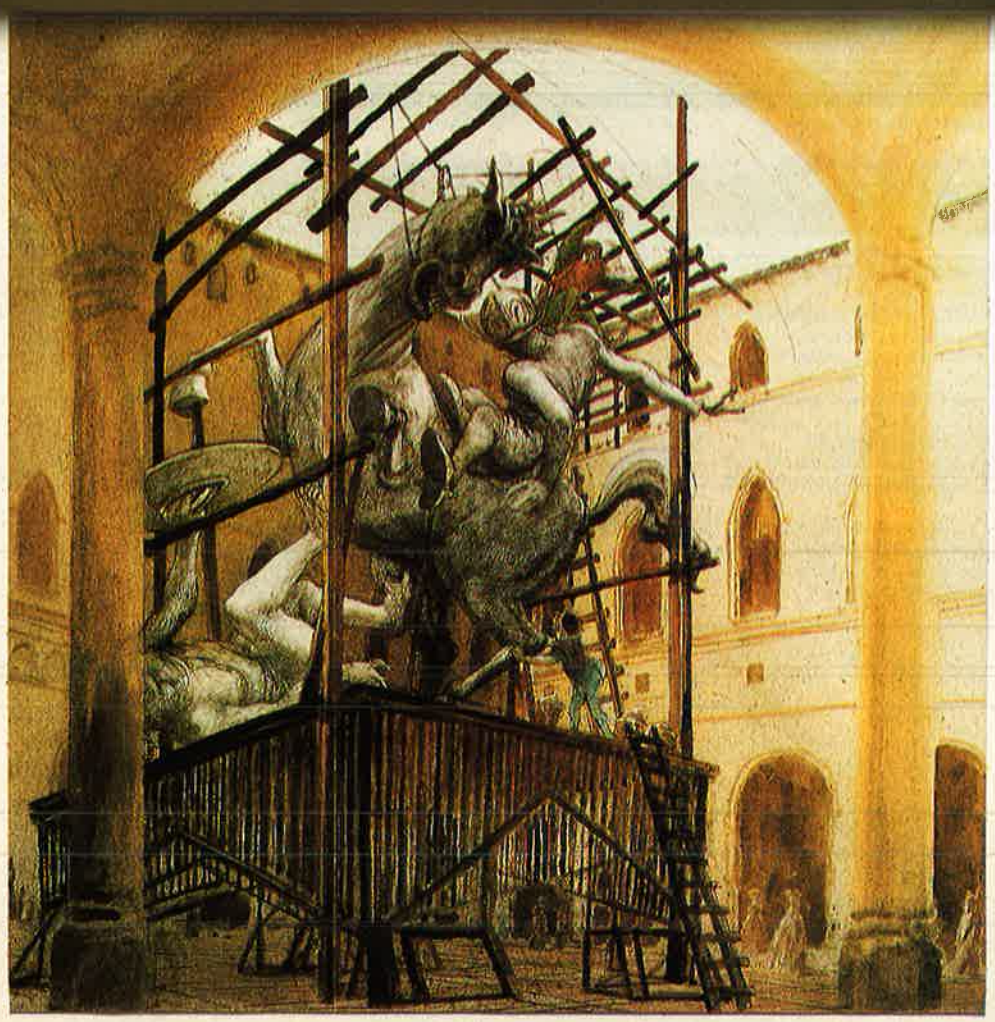
1983

All of which goes to show that CAP GEMINI SOGETI is calmly advancing on its plotted course. A service company and proud of it, its concern is to help its customers derive the greatest benefit from their data processing.

1984

This stability... formed the background for the relatively smooth development of Group strategy, based on four simple ideas:

- ***concentration** of activities on a single sector*
- *risk-sharing through **internationalization***
- ***expansion** to increase market share*
- *jealously-guarded **independence** of any outside force*



22,000 PROJECTS IN SUPPORT OF DP PROGRESS

The idea here is not to sing the praises of quantity, but instead to point out that a service company offering a large number of balanced, high-grade business references is in a better position than others to provide quality service to users.

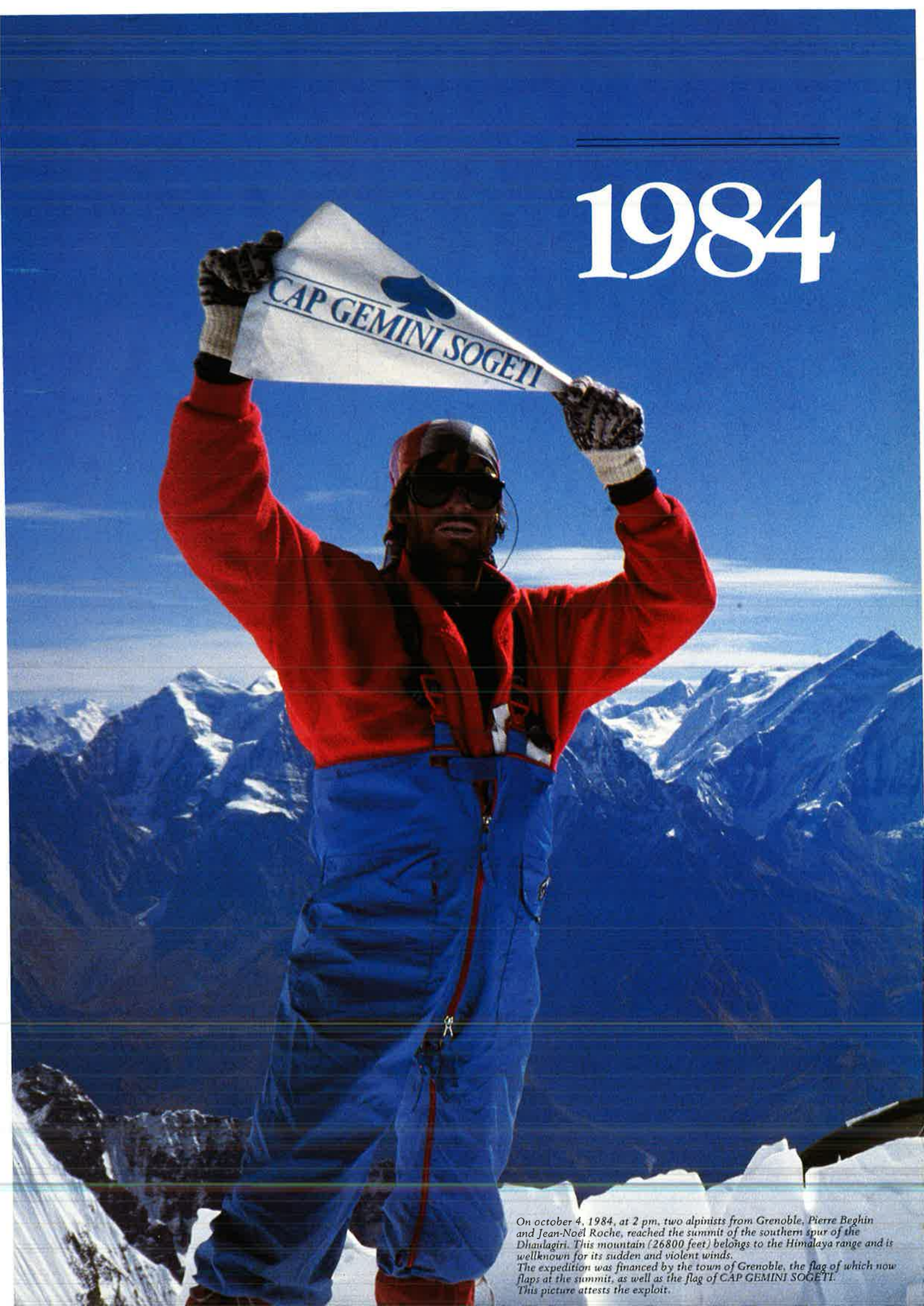
Just what can users expect from a company of CAP GEMINI SOGETI's dimensions?

- The service firm's wealth of experience will be reflected in knowhow which guarantees productivity in projected operations and realism in advisory functions.
- The service company will have tested the most advanced techniques and methods, enabling users to benefit from its experience.
- The service firm's professionals will have been trained to perform their jobs with punctuality, discretion, imagination and efficiency.

In any case, this is what users can expect from the CAP GEMINI SOGETI Group companies, whose 22,000 references over the past ten years represent more than just a volume of work performed. They represent experience whose equilibrium is maintained by careful policymaking: balance by economic sector (cf. page 11), balance by hardware type, mastery of all advanced technologies, continuing search for new skills.

Mention should also be made of the advantage of solidity, offered by the fact that CAP GEMINI SOGETI's biggest customer accounts for less than 3% of the Group's total sales volume. And we should point out that the overwhelming majority of the Group's major clients has remained unchanged over the past ten years: their loyalty bears witness to the quality of service received.

1984



On october 4, 1984, at 2 pm, two alpinists from Grenoble, Pierre Beghin and Jean-Noël Roche, reached the summit of the southern spur of the Dhaulagiri. This mountain (26800 feet) belongs to the Himalaya range and is wellknown for its sudden and violent winds.
The expedition was financed by the town of Grenoble, the flag of which now flaps at the summit, as well as the flag of CAP GEMINI SOGETI.
This picture attests the exploit.

CAP GEMINI SOGETI'S TRADE

A DP service and consulting company, CAP GEMINI SOGETI specializes in "software services." These services can assume the following three main forms: consulting and technical assistance, software and systems development, design and implementation of software products.

CONSULTING AND TECHNICAL ASSISTANCE

In this type of activity, CAP GEMINI SOGETI acts primarily to:

- give advice or carry out studies: draw up master plans, generate specifications, consult on methodology, hardware selection, program product selection, choice of new technologies and audit operations, define organizational procedures for a DP center, etc.
- assist its customers in the use of products such as database management systems, fourth-generation languages, production management programs, etc.
- perform adaptations, modifications and dedicated developments on program products used (or to be acquired) by customers, on their behalf.
- organize and deliver technical training within customer companies.
- design resources for ensuring system security and confidentiality (physical security for facilities, file protection, hierarchized information access, data enciphering, etc).
- perform technical assistance assignments in the design and operations fields.
- assume full responsibility for the running of a DP center.
- analyze job slots and select appropriate candidates.

SOFTWARE AND SYSTEMS DEVELOPMENT

This form of service consists in the production of "goods" which, if intangible, are nonetheless veritable capital goods, used over periods of years by customer firms and agencies. Here, CAP GEMINI SOGETI:

- fabricates basic software: specification of software functions and its interfaces with existing systems, definition of portability and performance criteria, code writing and debugging, testing, editing of documentation, etc.
- implements application software: analysis of customer needs, definition of functional specifications, organization of the implementing team, project management, dedicated system analysis, program writing and debugging, drafting of documentation, user training, software installation and acceptance.
- acts as prime contractor for large projects, handling negotiations with the customer, consultation with subcontractors, project management, technical coordination, definition of system architecture, software development and debugging, hardware and software integration, system acceptance, subsequent system maintenance, etc.
- maintains DP applications.
- translates software for its "conversion" or "migration" to other systems.

SOFTWARE PRODUCT DESIGN AND IMPLEMENTATION

The CAP GEMINI SOGETI product line covers a) application products designed to provide the most economical solutions possible to user requirements, and b) program products and tools acting to automate the process of computerization of applications.

Among our application products, we note the Standard Application Modules (SAM) covering all the major areas of management, the MULTITEL videotex processor systems, the range of MULTI 11 electronic directories for business applications. Development aids include the MULTIPRO software engineering workshop and a range of conversion tools.

In the program product field, CAP GEMINI SOGETI's job is to:

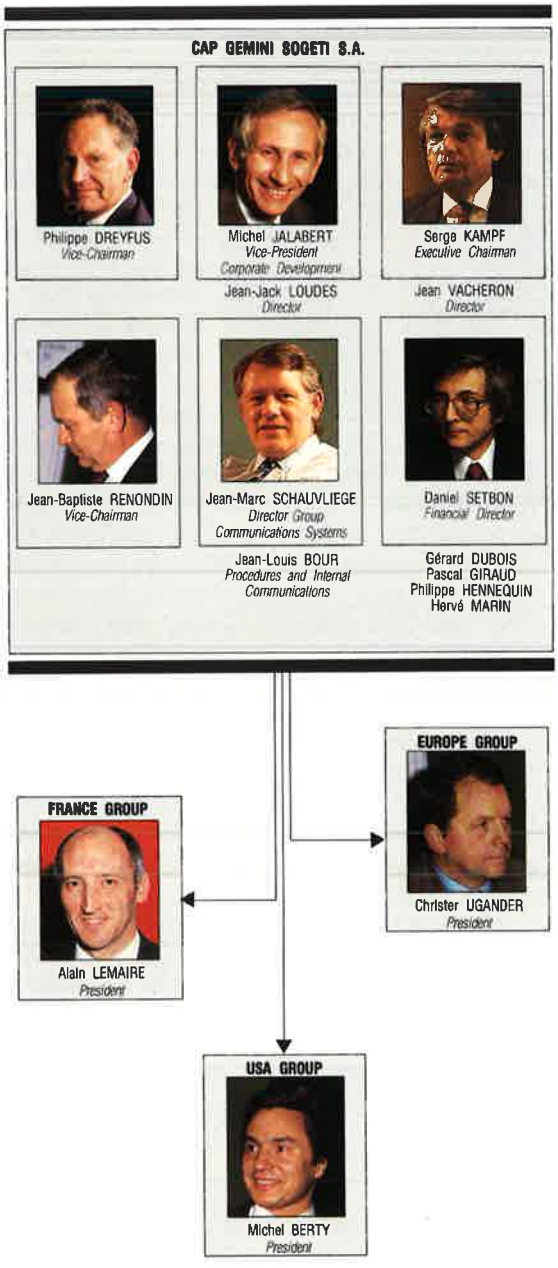
- design, develop and document the Group's program products,
- sell, install and start up these products, train personnel in their use,
- perform necessary adaptations, preventive maintenance and troubleshooting on request.

CAP GEMINI SOGETI : GENERAL ORGANIZATION

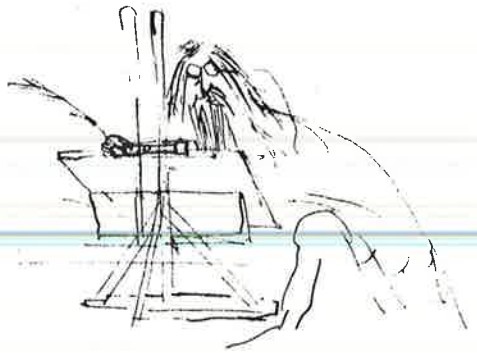
CAP GEMINI SOGETI'S overall structure is a conventional one: an executive staff and operational groups. This organization, meeting a straightforward concern for efficiency, has been inspired by four guiding principles:

- ensure substantial operational decentralization by means of highly autonomous "branches". Branches are brought together to form companies or regions; these in turn are grouped into four operational groups: three (FRANCE, EUROPE and USA) exercising geographic responsabilities, and the Development Group. A full presentation of the organization and activity of each group is given in pages 24 to 37
- maintain overall cohesion and ensure the Group's efficiency through a shared technical, commercial and financial policy, taking care that its structures are continuously adapted to this policy and to the prevailing situation, and staffing the Group's holding companies with small executive teams, thoroughly familiar with operational realities;
- ensure matching of the Group's services and products to market demand, by analyzing information on market trends and by setting up structures capable of meeting new customer requirements, as well as through substantial R&D investment in all areas which promise to encourage the short and medium-term growth of computer service activities;
- prepare for CAP GEMINI SOGETI's development on the major international markets, both through reinforcement of its European and North American presence in the form of wholly-owned subsidiaries and through direct exports and the systematic establishment of cooperative ties with a number of countries.

Overall coordination is provided by two steering bodies: *the Executive Committee* and *the General Management Committee.* (a presentation of the role of these two committees is given in page 2).



The Executive Committee of CAP GEMINI SOGETI consists of 7 members
Seated from left to right:
Daniel SETBON – Alain LEMAIRE – Michel BERTY – Jean-Baptiste RENONDIN
Standing from left to right:
Christer UGANDER – Michel JALABERT – Serge KAMPF



THE FRANCE GROUP

With 1984 total revenue of FF 774 million (up by nearly 19% over the preceding year), the France Group continued its growth, creating 194 new jobs during the year.

All in all, France Group experts (they numbered 2,300 at year's end) took part in 2,500 projects for 800 customers in 50 French cities. We are pleased to point out that, of our 50 leading customers in 1984, 20 were already clients in 1975, the year in which the three "ancestral" companies were joined to form the CAP GEMINI SOGETI Group. The principles which inspired us then are still today at the center of our system of values: regardless of circumstances, maintain complete independence vis-a-vis the other players on the DP stage (and, to achieve this, grow steadily while preserving our profitability); show constant concern for quality and satisfaction of customer requirements, down to the smallest detail; develop our professionals' sense of responsibility and their taste for an occupation which is at once exciting and demanding.

The past year has demonstrated to us that the ideas which governed the restructuring carried out at the end of 1983 were healthy ones, with results close enough to our expectations so that no adjustments seem necessary today. Our greatest source of satisfaction has been our ability to demonstrate that growth does not necessarily entail structural overweight: the France Group, with one less hierarchic level, is managing a workforce 40% larger than it was five years ago!

This lets us – through 39 branches or departments joined in seven operational companies – remain in close contact with our clients, who need the quick reflexes of our Group's structure as much as the broad scope of its capabilities. This structural streamlining also enables us to detect market changes at an early stage and, in this regard, 1984 will go down as a year in which trends observed earlier were confirmed. Three of these trends are especially striking:

1. While it is a commonplace to say that DP is a management tool, it is perhaps somewhat less so to observe that this tool today is of strategic importance for most business leaders, who are counting on automation to increase their competitiveness. In our case, the large number of jobs performed for customer general managements (feasibility studies, master plans, consulting on DP development and structure, etc.), our participation in the implementation of systems combining aspects of production and management, and the success encountered by our productivity-improving tools, are all examples illustrating this phenomenon.

2. The evolution of the role of DP service companies observed over the past several years is leading to clearly-individualized "trades," clearly recognized as such by our customers. Originally, the chief role of service firms was to compensate for the customer's shortage of trained DP personnel and to train non-computer personnel as a supplement to the conventional educational system. Today, they have become the users' indispensable partners by exercising a "trade" which – as opposed to that of computer manufacturers or management consultants – is unrivalled when it comes to disseminating new techniques, getting large projects started, mobilizing multidisciplinary implementing teams, mastering hybrid hardware assemblies or fostering synergism with academic research. In this way, our Group played an important role during 1984 in the distribution of videotex systems (over 40% of French users today are equipped with products from our MULTITEL line), in the implementation of systems making use of the memory card, in the development of advanced telecommunications, in the application of artificial intelligence concepts to concrete situations (implementation of expert systems), etc.

3. Our customers' requirements are also developing in depth. Growing increasingly cognizant of the advantages they can derive from the arsenal of skills offered by service companies, they are now expecting an offer of "solutions" rather than "resources." This is the situation with small-business clients and non-DP users, who do not want to have to learn DP techniques. This is also the case with "large users," who are seeking at once a higher level of technical sophistication, a limiting of risks, and task-sharing giving them more flexibility in allocating their own resources. Our ability to manage complex or risky large projects is thus a response to the demand of a fast-growing market. And this demand can be satisfactorily met only by good-sized service companies. The France Group's dimensions, together with the CAP GEMINI SOGETI Group's independence, are decisive factors in the successful completion of these projects.

In conclusion, I would say that the initiative taken by the large French service firms 20 years ago has generated a strategic industry for our economy. It has created a population of DP professionals oriented toward innovation, efficiency and service and, even in today's less-favorable economic situation, it still supports a high rate of job creation.

This is the path along which the France Group intends to continue its development during 1985 and beyond.

Alain LEMAIRE
President, France Group

Alain LEMAIRE *
President, France Group

CAP SOGETI OPERATIONS

Jean-François DUBOURG *
General Manager

Edouard BAZEILLE *
Deputy General Manager

Jean-Paul FIGER *
Deputy General Manager

Bernard LORIMY *
Director

José BOURBOULON *
General Secretary

Jacques de COMBRET *
Human Resources Manager

Leading operations support managers

Claude CHIABRANDO	Internal Training
Claude-Pierre DENIAUD	Technical Support and Methods
Françoise DOUTRIAUX	Recruiting
Christian GALLIN	Military
Jacques MASSON	Special Projects
Robert NOELL	Social Relations
Frank O'MEARA	Human Resources
Alain SARRAZIN	Planning
Alain WILBOIS	Videography
André WORONIAK	Sales Support

Legend:

AFM	Administrative and Financial Manager
MSSM	Marketing and Sales Support Manager
DTSM	Development and Technical Support Manager

* *Member, Steering Committee*

FRANCE GROUP OPERATING COMPANIES (7)

CAP SOGETI LOGICIEL

Alexandre HAEFFNER *
Chairman

Jean BISSELICHES
Deputy General Manager

Dominique ILLIEN	AFM
Jacques LAGORCE	MSSM
Christian DOEHR	DTSM

Branches	Branch Managers
• Information Technology	Jacques TIXERANT
• Public Corporations	Jean ROCHET
• Government Agencies	Charles-Henri LIMOUSIN
• Military	Jean-Marie BARRE

CAP SOGETI INDUSTRIE

Jean-Philippe GAILLARD *
Chairman

Gilbert ELOIRE
Deputy General Manager

Michel LAPEYRE	AFM
Claude FORSANS	MSSM
Gérard CROZET	DTSM

Branches	Branch Managers
• Mech. & Elec. Eng., Constr.	Jean-Pierre REY
• Chemicals & Food Industries	Jean-Pierre FOUSSIER
• Petrol. & Aerospace Industries	Théodore KLOCANAS
• Computer Manuf. & Eng. Firms	Denis SERGENT
• Automated Process Control	Alexandre LEVY

CAP SOGETI TERTIAIRE

Hervé JAHAN *
Chairman

Jean SAINT-HUBERT
Deputy General Manager

Martine BIGE	AFM
Christian CHEVALLIER	MSSM
Léon LEVY-BENCHETON	DTSM

Branches	Branch Managers
• Insurance	Jean-Luc CHATEAU
• Banking 1	Bernard SARRAZIN
• Banking 2	Paul LABE
• Banking 3	Bernard LEUBA
• Private services	Jean-Michel ROY
• Public services	Jean-Louis PRADELS

CAP SOGETI SYSTEMES

Jacques BERTHELOT *
Chairman

Jean-Claude BUSELLI
General Manager

Robert DUNAND
Deputy General Manager

Christian GLEYO	AFM
Jean-Noël GORGE	MSSM
Jean-Marc PONTHUS	DTSM

Branches	Branch Managers	Branches	Branch Managers
• Bordeaux	Joseph HURTUT	• Nancy	Bernard REGNAULT
• Grenoble	Patric BARBEROUSSE	• Nantes	Bertrand de TROGOFF
• Lille	Marcel de TAERVERNIER	• Nice	Pierre MAGNIER
• Lyons 1	Christian SOUCHON	• Orléans	Jean-Michel PARMENTIER
• Lyons 2	Jean-Pierre PANDIN	• Rennes	Jean-Claude BUSELLI (acting)
• Marseilles	Paul CHAFFARD	• Rouen	Philippe de BEAUCHAMP
• Montpellier	Francis MORRA	• Toulouse	Jean-Loup BOUDINEAU
• Mulhouse	Raymond PAWLOWSKI		

CAP SOGETI EXPLOITATION

Rémi DONNEAUD *
Chairman

Georges COHEN
Deputy General Manager

Thierry GAUTHIER	AFM
Georges COHEN	MSSM (acting)
François NEANT	DTSM

Branches	Branch Managers
• Branch 1	Jacques AUGER
• Branch 2	Gérard JAMAIS
• Branch 3	Luc-François SALVADOR
• Branch 4	Jean-Marc BY
• Branch 5	François NEANT (acting)
• Branch for French-Speaking Switzerland	Claude BUGEY

CAP SOGETI FORMATION

Jean-François DUBOURG
Chairman

Cornel SIMIU
Deputy General Manager

Departments	Managers
• Collège informatique	Cornel SIMIU
• Selection	Any BOULADE
• Training	Jacques CHEMLA

CAP SOGETI INNOVATION

Jean-Paul FIGER
Chairman

Roland VARENNE
Deputy General Manager

Maurice SCHLUMBERGER
Chief, Grenoble
Research Center

THE FRANCE GROUP

ACTIVITIES OF THE SEVEN OPERATIONAL SUBSIDIARIES

Software services
(consulting and technical assistance, software and systems implementation)
Regional France:
- CAP SOGETI SYSTEMES:
all economic sectors.

Paris Region:
- CAP SOGETI LOGICIEL:
government, aerospace, telephone industry.
- CAP SOGETI INDUSTRIE:
other industries.
- CAP SOGETI TERTIAIRE:
banking, insurance and services.

Assistance to computer operations:
- CAP SOGETI EXPLOITATION

Training and recruiting:
- CAP SOGETI FORMATION

Research and development:
- CAP SOGETI INNOVATION

Cap Sogeti Operations coordinates the operations of these seven subsidiaries, providing support in the marketing, technical and human resources management areas.

EUROPE'S "ESPRIT" RESEARCH PROGRAM

The ESPRIT program, keystone of the European Economic Community's DP policy, is intended to increase the competitiveness of the European information technology industry. The program aims to encourage cooperation between research establishments and manufacturers by financing joint research projects along the main lines of DP development.
CAP GEMINI SOGETI is participating in six projects selected by ESPRIT on the basis of the 1984 invitation for bids and dealing with the following topics:

- *Architecture permitting cooperation between knowledge bases and databases. This artificial intelligence project is being carried out in cooperation with CSELT (Italy), Philips (Belgium), CERT (France) and the Politechnico di Milano.*
- *Expert systems for the progressive definition of requirements on the basis of application prototypes: this project, involving the upstream phases of the software production cycle, is being undertaken in cooperation with Olivetti and General Electric Company (UK).*
- *Computer-integrated production architecture to enable intercommunication between design, production and management applications: besides CAP GEMINI SOGETI, sixteen participants are involved in this massive, strategic project, notably British Aerospace, SNIAS, Bull, Philips, Siemens, IBM, the University of Aix-la-Chapelle and others.*
- *Study of performance levels for concurrent processing of functional programs, conducted in cooperation with ICL, INRIA and the University of Stirling (UK).*
- *Parallel architectures and languages, with Philips (The Netherlands) leading a team including Bull, CSELT, AEG, GEC, Nixdorf, etc.*
- *Operational control of robot systems in a computer-integrated production architecture, with Renault and Fiat as our chief partners.*

CAP SOGETI SYSTEMES, which consolidates the France Group's 15 branches throughout regional France, ended 1984 with a workforce of 930. Its growth is keeping step with advances in computerization everywhere in the fabric of the French economy.
Some of the contracts signed by CAP SOGETI SYSTEMES this year are representative of the market's evolution toward dimensions and goals which had been primarily restricted to the Paris region in the past. CAP SOGETI SYSTEMES is also intensifying its penetration of the markets for small business and decentralized branches of larger concerns: on the one hand, with its Standard Application Modules (business software which combines the economic advantageousness of a standardized product with the possibility of dedicated adaptation to the needs of individual customers); on the other, with the development of microcomputer-based applications.

CAP SOGETI LOGICIEL whose market – in the Paris region – is formed by the government and the industries working for it, numbers 280 professionals. Besides its capabilities in management applications, it has confirmed its skills in large-project engineering and network implementation. Already in charge of implementation of the TELECOM 1 network's service management center and the French Navy's ARTIMON network, CAP SOGETI LOGICIEL has received orders for the Air Force's ANTINEA network (in association with SAGEM) and for design of the management center for the Air Force's RESEDA packet-switching network. The company has also been tasked with implementation of the ARCHITEL electronic information network on IBM hardware, and has delivered the TELECOM 1 network tester to the French National Telecommunications Research Center (CNET). We might also note that CAP SOGETI LOGICIEL, in association with SESA and Bull, is prime contractor for expansion of the Electronic Directory system to cover all of France.

CAP SOGETI INDUSTRIE's sector of activity covers all of the manufacturing industries in the Paris region, including DP hardware manufacturers and engineering firms. This year marked the effective startup of "computer-integrated manufacturing," especially in industrial sectors under pressure to invest in order to regain their competitiveness. With its 330 professionals, CAP SOGETI INDUSTRIE is taking part in this process of industrial modernization in two ways: upstream, through the development of master plans drafted at the overall corporate level; and downstream, through the coherent integration of productivity-enhancing, computerized industrial management applications.

CAP SOGETI TERTIAIRE (310 professionals) is also centered exclusively on the Paris region, where it is tasked with assisting the DP development of the service sector: banking, insurance, tourism, real estate, publishing, distribution, transportation, the professions, etc., as well as public and private service companies. A typical example might be banking, where CAP SOGETI TERTIAIRE is installing new DP systems making use of the most advanced technology (such as memory cards for cash transactions), and where certain associations of banks have requested the company to develop their joint systems. In 1984, for example, CAP SOGETI TERTIAIRE implemented NOEMI, a unified registered-security management system, for a consortium of 12 major banks.

CAP SOGETI EXPLOITATION performs all services related to the management, operation and automation of DP centers throughout France and in French-speaking Switzerland. The company has continued the rapid growth which has been one of its striking features since its founding, its workforce reaching 320 at the close of 1984. The movement toward automation of computer operations, which is beginning to cause profound change in the trades concerned, is a powerful driving force behind the company's activity. This explains the growth of its operations as network and data administrator, communications and data base software manager, operations analyst, infocenter consultant, and so on.

CAP SOGETI FORMATION has developed the seminar activities of its "Collège Informatique", especially outside of France, (Europe and in the USA), while its Selection department has made an increasing contribution to DP professionals and executives recruiting for companies of all sizes.

CAP SOGETI INNOVATION is the spearhead of the Group's research and development policy. It concentrates its activities on research fields touching on the process of automation of applications, specifically:
- software engineering,
- artificial intelligence (from the twin standpoints of expert systems and natural language)
- man-machine communication.

THE FRANCE GROUP

The following two pages present a selection from the 2,500-odd projects carried out by the France Group in 1984.

Ranging from large projects through DP solutions for the professions to the implementation of new technologies, they do justice to the variety of operations performed by the professionals of the France Group.

ARSOE

ARSOE is a regional livestock breeders' service association in western France. With the participation of Brittany's four Chambers of Agriculture, ARSOE's customers are among the 85,000 dairy farmers of the region, managing 2.5 million head of dairy cattle.

Daily checking of each farm's milk production, monitoring of livestock health and management of artificial insemination currently take place using conventional DP resources, with the traditional entry forms and hardcopy output listings. Installation of a new electronic information system, selected and implemented jointly by ARSOE and CAP GEMINI SOGETI, will greatly facilitate the work of 300 dairy inspectors and 250 inseminators, who will use either the dairy farmers' Minitel terminals (5,000 already installed) or portable Minitel units. This procedure will enable them to both consult and update the system's databases: dairy stock, dairy farms, dairy farmers.

In this way, ARSOE and other agricultural agencies will have faster access to more accurate and more detailed statistical information.

At a later date, this individualized, permanent livestock management tool will be expanded to handle sheep, swine, rabbits and barnyard animals.

DIVA

Expert systems, which can manage "knowledge" – and not just "information" – are stimulating high hopes for the computerization of applications which have heretofore proved intractable to the formalization of conventional DP analysis. This will be made possible by making use of the knowledge and knowhow of the leading experts in the fields in question.

With DIVA, the French automaker Renault and CAP GEMINI SOGETI have recently extended the application of expert systems into the field of mechanical and electrical diagnostics. The methodology developed by CAP GEMINI SOGETI's experts has made it possible to define – in cooperation with Renault specialists – the content of a "knowledge base" appropriate to this field and to pinpoint the technical solutions to be implemented (representational form and mechanism for exploitation of knowledge).

To allow an auto repairman to operate this expert system, which runs on an IBM-PC (or compatible) system, CAP GEMINI SOGETI had to design a dialogue through which the mechanic enters a detailed description of observed symptoms, obtaining an accurate diagnosis in return.

MULTIMAIL "MHS"

Installed on Bull and IBM hardware, the MULTIMAIL "MHS" (High-Security Messaging) product is a MULTIMAIL system option enabling Minitel terminal users to exchange messages via electronic mailboxes.

Developed by CAP SOGETI LOGICIEL, MULTIMAIL "MHS" makes use of a Bull CP8 memory card, which adds three significant new functions to standard messaging:

- automatic connection, thanks to the recording of necessary numbers, access codes and passwords in the memory card.
- confidentiality of communications at all stages of message processing, from entry to reading by addressees, thanks to an enciphering algorithm held in the card.
- "electronic signature", also implemented by an enciphering algorithm, providing the message with trustworthy authentication of message origin and content.

NOEMI

Recent French legislation has eliminated the use of physical certificates for registered securities. NOEMI, a consortium of 12 of France's largest banks, requested CAP SOGETI TERTIAIRE to implement a new system for computerized management of these securities.

Designed for use by untrained personnel, this software is characterized by its ease and flexibility of use. In point of fact:

- dialogue is fully menu-prompted,
- display density permits a decrease in the number of sequences required to perform a function,
- the user has access to numerous information retrieval tools.

The initial segment of this software has been installed in each bank belonging to the consortium, and has been operational since year's end. It is currently managing over 4,000 securities departments, for 640,000 shareholders and bondholders.

CAP SOGETI TERTIAIRE is also marketing this NOEMI software, with two other banks having already acquired rights for its use.

NASA ELECTRONIQUE

NASA Electronique's 40 retail outlets in the Paris region are linked by a videotex system designed to streamline the chain's management. This system was jointly implemented by NASA and CAP SOGETI TERTIAIRE.

The technical solution is built around the MULTITEL 10 CICS videotex system which, installed directly on the company's central computer, can be used to develop both videotex and standard applications.

Each point of sale can query inventory status, submit orders and issue customer billing. As a result, the entire distribution process – purchasing management, inventory management, sales and delivery management, customer account management, cash

management – is controlled in real time from Minitel (or conventional) terminals.

Any new point of sale opened by NASA requires only a Minitel terminal, a printer and a telephone connection to yield a real-time management tool. Documents such as invoices or delivery slips are produced by local printers connected to the Minitel.

RHONE-POULENC

Rhône-Poulenc, France's leading chemicals group, has been a CAP GEMINI SOGETI customer for many years.

In 1984, Rhône-Poulenc initiated TRILOGIE, a large project for computerization of industrial management, in 20 of the group's chemicals plants.

Having already installed CAP GEMINI SOGETI's CESAR product in Rhône-Poulenc Santé's Elbeuf and Vitry-sur-Seine plants, the groupe decided to adopt CESAR for the segment of TRILOGIE handling functions upstream of actual production.

CESAR is a Standard Application Module developed by CAP SOGETI INDUSTRIE to perform industrial facilities management functions. It provides real-time purchasing, inventory and resupply management, and monitors maintenance and new construction operations.

NATHAN

When Fernand Nathan, a French publishing house, decided to reorganize and automate its DP production, running on an IBM 4341 mainframe, it turned to CAP SOGETI EXPLOITATION. This assignment, carried out in four phases, was conducted using CAP GEMINI SOGETI's SUPER project management method.

Following a detailed analysis of existing conditions – with special attention to problems of security, documentation and optimization of performance levels – CAP SOGETI EXPLOITATION participated in the restructuring of the department and concurrently defined new technical standards for file coding and production. Operations files were then remodeled to meet the newly-defined standards.

The final stage, currently being implemented, is aimed at full automation of production: automatic job scheduling, preparation and startup.

MICRO-MANAGEMENT FOR THE PROFESSIONS

The professions are confronting a knotty problem: how to take on increased workloads without boosting overhead. A microcomputer-based solution to this problem has been worked out by CAP SOGETI SYSTEMES' Toulouse Branch, which has developed a complete management system for a radiology practice.

The system manages patients' medical and Social Security files. It prints out X-ray identification labels; it manages, prints, files and retrieves examination reports. Moreover, it manages the practice's entire bookkeeping and generates required statistical data.

Installed on a microcomputer featuring touch-screen control, this system makes use of consumer software (D.BASE II, LOTUS 1-2-3, MEMOMAKER). System design enables users to upgrade its functions themselves in order to meet new requirements of a medical or administrative nature.

TELECOM 1

The TELECOM 1 satellite, now in orbit, is already offering users its first high-speed transmission services. CAP SOGETI LOGICIEL, a participant in a number of the TELECOM 1 project's developmental phases, is thus a partner in the opening of the first "Integrated Services Digital Network" facilities.

From the program's very outset, CAP SOGETI LOGICIEL had investigated the potential markets for TELECOM 1 services. Among other things, its research demonstrated the advantageousness of high-speed links between a company's distributed CAD/CAM sites, in view of the voluminous transfers of graphics files required for this type of application.

CAP SOGETI LOGICIEL was also a significant participant in the NADIR pilot project, designed to implement and evaluate new DP applications within the context of the TELECOM 1 project (high-speed transmission, interconnection of local area networks, etc.), taking advantage of the potential offered by broadband telecommunications systems.

CAP SOGETI LOGICIEL has also delivered the first version of software for the management centers of TELECOM 1's time-division multiple access (TDMA) station network to TELSPACE, the system engineer.

Finally, CAP SOGETI LOGICIEL also implemented PERISAT, the network tester for validating the TELECOM 1 experimental network, on behalf of the French National Telecommunications Research Center (CNET).

INFOTEC

The major problems facing DP managers include that of old applications which have already undergone numerous modifications and which have yet others in the offing, due to significant amendments in government regulations or to changes in the market.

A genuine solution to this problem involves complete redesign of the applications in question: thanks to the use of new hardware and software technologies, performance levels are higher and, obviously, the volume and duration of maintenance tasks are substantially reduced.

This is the general situation in which the DP management of INFOTEC, a Hoechst department tasked with photocopier sales, leasing and maintenance in France, decided to completely recast its billing and inventory management application. Design and implementation of this project was entrusted to CAP SOGETI INDUSTRIE. The new application has been operational since June 1984.

S.N.E.C.M.A.

ELECMA, the "electronics" division of S.N.E.C.M.A. (Société Nationale d'Etudes et de Constructions de Moteurs d'Aviation), selected CAP GEMINI SOGETI to carry out tests on in-flight engine regulation software for the Mirage 2000 fighter.

THE EUROPE GROUP

Paul HOFMANN
Vice President Sales

Harry KOELLIKER
Vice President Finance

Jean RONCERAY
Vice President Administration

For the Europe Group 1984 was a year of strong growth. The progress achieved in 1983 continued throughout the year and allowed us:

- to cross the threshold of 500 million francs turnover, with a growth rate of 51% compared with 1983 which, after deducting variations in exchange rates and the weighted average inflation, corresponds to a growth in volume of 42%.
- to see our operating profit increase by 67% (a rise of 57% in real terms),
- to recruit 316 personnel, bringing the total staff of Group Europe to close to 1300 people at 31 December 1984.

It is particularly encouraging to note that this growth is not an isolated phenomenon in only one country. It took place in the eight countries in which Group Europe currently operates, with even the lowest turnover growth recorded being 30 % (the highest is 134 %!).

Group Europe still has much room for growth, as our share of the market in these eight countries is only of the order of 2 to 3 %. This market share varies according to the country concerned: From 5 % to 10 % in the Netherlands, in Switzerland and in Scandinavia, but lower than 1 % in Spain and even less than this in our two largest marketplaces, West Germany and Great Britain. The exploitation of this room for growth is obviously a major strategic aim for Group Europe.

Among the most significant trends, we should note that the Group is increasingly being awarded large contracts by our clients for which we assume overall responsibility. This evolution bears witness to the great credibility we enjoy in the eyes of our clients and to the market's recognition of our capacity to develop complex information systems within the time limits, the budget and the specifications laid down: These are precisely the three "musts" insisted upon in our project management training programme.

It should be also emphasized that in 1984 we set up two European Support Centers to support the operational companies, one in Munich covering configuration management and conversions and the other in Paris for videotex technology and applications. The number of significant contracts already obtained by the operating companies in these two areas is very encouraging. This success will no doubt lead us to extend the concept of European Support Centers to other areas in which the transfer of know-how and technology is necessary to respond to user demand.

1984 was very satisfactory not only financially but also professionally. Indeed, the rapid growth did not impede the programme of professional development for our staff, on the contrary this programme was extended especially in the area of large project management. We therefore feel confident in our ability to respond to the needs of the marketplace and to face the future not only in terms of growth but also – and more important – in technical competence and the quality of our service.

Christer UGANDER
President, Europe Group

GERMANY	**CAP GEMINI DEUTSCHLAND**
Branches	Branch Managers
• Düsseldorf	Werner BONGARTZ
• Munich	Karl LINDNER
• Hamburg	Volker CALLSEN

Werner BRODT
General Manager

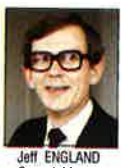
BELGIUM	**CAP GEMINI BELGIUM**
Branches	Branch Managers
• Brussels 1 Public Sector	Aimé d'HELFT
• Brussels 2 Private Sector	Jean PEETERS
• Antwerp	Robert MALOMGRE

Jean MILAN
General Manager

SPAIN	**CAP GEMINI ESPAÑA**
Branch	Branch Manager
• Madrid	Philippe DANGLADE

Philippe DANGLADE
General Manager

UNITED KINGDOM	**IAL GEMINI**
Branches	Branch Managers
• North	Gerald PLIMBLEY
• Information systems	Phil BENTON
• Public Services	Brian HARRIS



Jeff ENGLAND
General Manager

Main Support Functions	
Jean-Claude AMIEL	Director Videotex Support
Meinard DONKER de MARILLAC	Director of Communications
Klaus FEKETE	Director Conversion Support
Jean PRADES	Director Technical Development

Kaï MARTHINSEN
General Manager

NORWAY — **DATA LOGIC**

Svein WEINHOLDT	Technical Development Manager

Branches	Branch Managers
• Oslo	Tellef LANDSWERK
• Bergen	Arne OEN
• Development	Kaï MARTHINSEN (acting)

Chris van BREUGEL
General Manager

THE NETHERLANDS — **CAP GEMINI NEDERLAND**

Hans BOOM	Deputy General Manager
Rob STARREVELD	Deputy General Manager

Branches	Branch Managers
• Rotterdam	Henk BREMER
• Amsterdam	Bert STRUIK
• Utrecht	Ysbrand van der WERF

Aad UIJTTENBROEK
General Manager

THE NETHERLANDS — **PANDATA**

Ton KNOTSCHKE	Deputy General Manager
Piet ADRIAANSE	Business Development Manager

Branches	Branch Managers
• Rijswijk	Eric PLANTE
• Amsterdam	Peter BUISMAN
• Zwolle	Ron LAVALETTE
• Eindhoven	Ton CASPERS
• Training	Guido van SPALL
• Organisation and Data Processing	Wim van de GEIJN

Kaj GREEN
General Manager

SWEDEN — **CAP GEMINI BRA**

Leif BJORDELL	Sales Development Manager

Branches	Branch Managers
• Products	Christer ABERG
• Stockholm	Lars Olof NORELL
• South	Berndt OSMUND
• North	Lars SUNDBERG

Werner ZÜLLIG
General Manager

SWITZERLAND — **CAP GEMINI SUISSE**

Branches	Branch Manager
• Basel-Bern	Walter WEISS
• Geneva	Victor GANI
• Lausanne	Alain MARECHAL
• Zurich 1 Finance and Services	Erwin ESTERMANN
• Zurich 2 Commerce and Industry	Arthur HOLENWEG

A basic characteristic of the CAP GEMINI SOGETI group is its ability to match its services to local needs.

The Group is structured with geographically or functionally based branches. Their substantial autonomy in terms of management and marketing and their extensive knowledge of the local market has permitted the spectacular growth of CAP GEMINI SOGETI since its foundation.

National managers and professionals who are intimately acquainted with their country's language, customs and working habits are always best able to satisfy user needs.

The strategy of decentralisation demanded by the extent of the European market should not be applied to the detriment of CAP GEMINI SOGETI's cohesion which is maintained through the following principles:

- **common working methods:** all companies apply the same methods, whether relating to technical or management methods,
- **sharing of acquired skills:** one of the main concerns of CAP GEMINI SOGETI is to conserve and re-utilize the "know-how" accumulated by all its subsidiaries. A computerized system allows us to diffuse worldwide project information from all our companies.
- **international contacts:** no document can replace human contact; this is why the managers and the senior professional staff from all companies in the Group meet regularly to exchange information, discuss their common concerns and decide on measures to reinforce their solidarity and their competence.

THE EUROPE GROUP

VIDEOTEX

The NORWEGIAN TELECOMMUNICATIONS AUTHORITY (NTA) tasked CAP GEMINI SOGETI to develop the country's public videotex system TELEDATA. The basic approach was that the central system should serve both as an information reservoir and as a link between users' terminals and other information providers. TELEDATA's structure thus had to be open and upward-compatible with ultimate support for up to 2,000 simultaneous calls. NTA's specifications also require the ability to use current European videotex standards CEPT, PRESTEL and TELETEL.

CAP GEMINI SOGETI videotex system developers, with Norwegian subsidiary DATA LOGIC, used the Group's MULTITEL range of software to provide a robust kernel for the system to be developed on TANDEM hardware.

CONVERSIONS

The task of converting an information system to new hardware brings into play all the skills of a systems engineering company. The successful "one-to-one" conversion of the existing software investment to new equipment is often only part of the story. CAP GEMINI SOGETI's European Conversion Center in Munich, with 40 conversions to its credit since 1983, offers a three-tier service comprising: The one-to-one conversion, a re-design phase where the client is dissatisfied with the "old" applications and a re-write phase to get the best out of a new on-line system. This service is known as Configuration Management.

The Conversion Center uses the Group's specialized conversion tools including numerous language translators and an automated Estimation, Planning and Control System known as INFOLIB which rapidly evaluates a conversion workload.

LARGE SYSTEM

CAP GEMINI SOGETI companies undertake major systems development projects in the context of a client's strategic DP plans. A typical contract is for the Dutch subsidiary of the life insurance giant VITA,which has over the past 2 1/2 years given full responsibility to CAP GEMINI NEDERLAND for developing interactive DP systems that will allow VITA HOLLAND to cope with a major growth in new life business. The main systems developed to date have centered on the registration, calculation and issue of policies for individual life insurance policy holders. The latest project covers the growing field of group insurances, such as those for company pension funds.

COMPUTER INTEGRATED MANUFACTURING

"They can have any colour they want as long as it's black." This is what Henry Ford Senior used to tell his Model "T" dealers, but times have changed radically. To face ever-increasing competition the modern car manufacturer must economically combine any set of options demanded by individual buyers. Saab Scania in Sweden is engaged, with CAP GEMINI SOGETI's help, in developing a total Materials and Production Control System that will aid this process of suiting the product to changing customer tastes. CAP GEMINI BRA teams are involved in two vital tasks: First, in developing a system to check that the manufacturing plant is in a position to fulfil the specific options required. Second, to manage the sequence in which body shells are presented on 14 different colour lines. These systems are part of several that will make Saab Scania a European leader in Computer Integrated Manufacturing (CIM) techniques.

4TH GENERATION LANGUAGES

Fourth Generation Languages are valuable tools in the development of today's DP systems but they require informed planning and usage to reach their full productivity potential. Among CAP GEMINI SOGETI companies deeply involved in this field is PANDATA in Holland, who are offering their clients a three-tier specialized "4thGL" service incorporating expert consultancy, project development and education in the use of languages such as ADS, IDEAL, LINC, MAPPER, NATURAL, ORACLE and others. Prior to system conception PANDATA professionals advise clients on the choice of the most suitable language. At this point consultants will take into account the need for potential users to get involved at an early stage, implying such concepts as prototyping and a close study of system functionality. However, not every information system can or need be developed using a fourth generation language. It depends on the right match between problems and needs.

FREE TEXT INFORMATION RETRIEVAL

IAL GEMINI has won a market leadership position in the provision of major turnkey Command and Control systems to the UK emergency services. Both for these applications and their other clients, the company has developed a microprocessor-based free text data retrieval package, known as MULTITRIEVE, which is already in use by the emergency services to improve their ability to obtain information from complex files. The latest client for MULTITRIEVE is the UK Central Electricity Generating Board (CEGB) which has ordered the system for each of its five national regions to enable civil engineers to access the vast amount of documentation involved in 5- to 7- year construction projects that are typical of power station building programmes.

RAPID - RESPONSE SERVICE

Together with scope of capability, speed of response is an essential criterion of the quality of a DP service company's work. During 1984, SCHINDLER, an elevator manufacturer and installer, was confronted with a change in legal regulations on the safety standards of installed equipment, requiring overhaul of all units subject to the new rules.

To meet the challenge, only a very short time was available for the company to modify its existing DP system and to automate scheduling of its maintenance operations, which had been manually performed up to then.

For complete reassurance that the new system would be operational on schedule, SCHINDLER turned over the full set of tasks to CAP GEMINI BELGIUM, which met the customer's deadline without a hitch.

THE USA GROUP

On January 1, 1984, the US operations of the Group were unified under one company and one name: CAP GEMINI DASD.

The new company name was created by adding DASD, the name of the US company acquired by the Group in 1981, to CAP GEMINI, the name the Group has designated for all its operations based outside France.

CAP GEMINI DASD is the name by which we are now known in the US to all our clients and prospects, to our staff, to our competitors, to our recruits, in fact, to all the members of our profession.

Given the organizational efforts begun in preceding years, CAP GEMINI DASD's prime objective in 1984 was to improve our corporate profitability. The results were encouraging in that the operating profit doubled compared with 1983. Our determination to attain a level of results in the US comparable to that achieved by our European counterparts has led us to set as our 1985 priority the same objective as in 1984, without losing sight of our operational development.

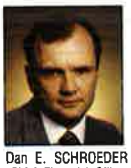
The thrust of our activities in 1984, as well as our aims for 1985, may be illustrated in the following major areas:

- a technical and sales activity supported in several areas of interest for American users: organization and assistance in the running of infocenters (60% of the top 1,000 users in the US are already equipped with an infocenter); development of 4th generation tools and languages; banking applications in general (according to one market study, the data processing expenditure of this sector has risen by 27% in 1984); installation and adaptation of major application packages, etc.
- although conversions do not figure in the above list, they generate an increasing amount of work every year in the US... as well as problems for users! As the leading specialist in the field, CAP GEMINI DASD developed new translators in 1984, perfected its methodological approach and completed the training of all its technical and sales teams. This resulted in numerous contracts and large implementations, the references for some of which are reflected in the following pages.
- two new branches were created in 1984: one in Orlando, Florida, the other in New England. These two regions are experiencing rapid economic growth, and could no longer be effectively managed from Tampa, Florida and New York City.

So it is on this triply - reinforced foundation – from the standpoints of image, of profitability and regional coverage – that the staff of CAP GEMINI DASD has committed itself for 1985 to the goal of maintaining the status it has acquired within CAP GEMINI SOGETI in only a few short years. And, if possible, of increasing it.

Michel BERTY
President, U.S.A. Group

Jim KERRIDGE
Deputy Director



Dan E. SCHROEDER
Chief Financial Officer

Francis BEHR
Vice President Development

E. James DALE
Vice President Marketing

Main Support Functions:

Jack GOODSITT	*General Counsel*
Dave MARSHALL	*Director Software Group*

THE USA GROUP

EASTERN REGION

Branches	Branch Managers
Baltimore	Bill FLANNERY
Edison, NJ	Steve DELUCA
New England	Bruce GALARO
New York	Mark HENKIN
Philadelphia	Ed JANECZKO
Washington, DC	Paul OPALACK

Jim KERRIDGE
Vice President

MIDWESTERN REGION

Branches	Branch Managers
Chicago	Warren SELKOW
Indianapolis	Byron WESTFALL
Milwaukee	Jim WALKER
Minneapolis	Terry FRAZIER
St Louis	Jon JENSEN

Jerry QUARTANA
Vice President

SOUTHERN REGION

Branches	Branch Managers
Atlanta	John HAMON
Dallas	Tim FLYNN
Houston	Steve COFFMAN
Jacksonville	Bill DIXON
Orlando	Doug BERRYHILL
Tampa	Steve SWANSON

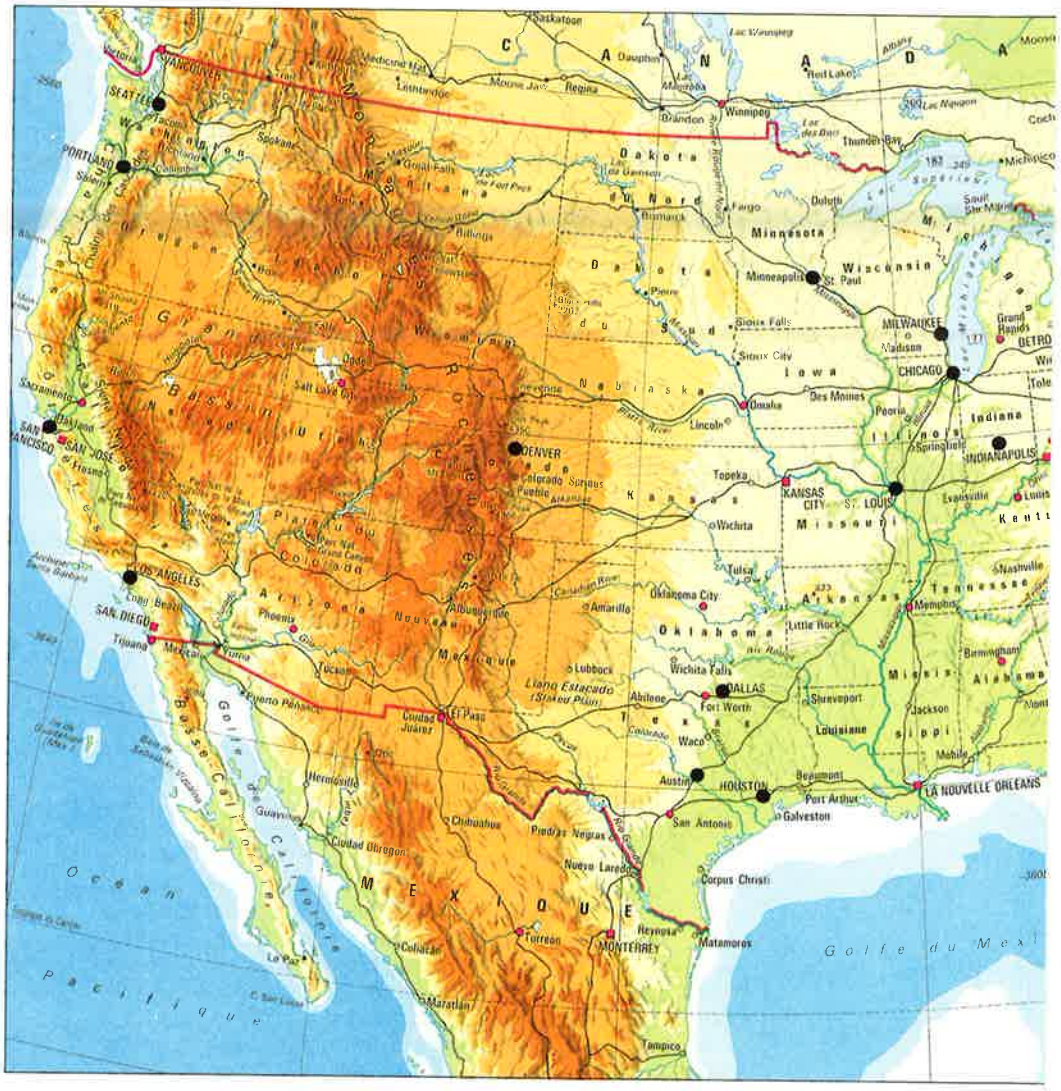
Bob BLAKE
Vice President

WESTERN REGION

Branches	Branch Managers
Denver	Chuck SPRONG
Los Angeles	Dave MORGAN
Portland	LaVelle DAY
San Francisco	Jerry ROHAN
Seattle	Dave GANTT

Tom PATTI
Vice President

ICOMX	Bernard DURTESTE



The USA Group is made up of 22 branches located in major American cities; these branches are further grouped into four sales regions.

The two pages that follow are aimed at presenting the detailed organization of CAP GEMINI DASD, as well as a summary of some of the projects completed in 1984 by our 1,000-member professional staff.

NORTHWESTERN MUTUAL LIFE INSURANCE COMPANY (NML)

NML is the nation's 10th largest life insurance company. With its headquarters in Milwaukee, Wisconsin, NML has over $100 billion worth of insurance in force which represents 1.7 million policy holders.

NML is developing, with CAP GEMINI DASD support, one of the most advanced insurance sales illustration systems in the industry. This system encompasses life and disability income insurance as well as all of NML's annuity products. The system illustrates future insurance values for traditional and flexible payment plans, utilizing IBM personal computers.

By utilizing micro computers, NML is saving expensive mainframe computer time while providing better service to their agents with instant response time because the computer is right on site.

CAP GEMINI DASD personnel, in addition to normal project work of programming and testing, have assisted in productivity tool evaluation, screen development and the interfacing that had to be accomplished with existing word processing, spreadsheet, and graphic packages.

TRANSWORLD AIRLINES (TWA)

TWA is one of the largest US airlines serving many major metropolitan centers in the United States, Europe and the Mediterranean areas. Many of the US routes provide convenient connections at New York's JFK International Airport with international routes on which the airline carries more passengers in scheduled services between the US and Europe than any other airline.

In a continuing program to reduce operating costs and increase cash flow, TWA is automating various manual procedures. CAP GEMINI DASD is involved with a project for travel agent invoicing. The scope of the project is to design and implement an invoicing system to replace the existing manual system.

The new system will be fed by the online Passenger Automated Revenue System (PARS). All transactions of the travel agent are captured by PARS and are fed into the new invoicing system. The

billing area can look at the invoices and at that point have the option of adding corrections or having the invoices printed. The benefits of the system are automatic preparation of invoices, shorter collection periods, automated data feed to General Ledger, audit track of billing and automated end-of-span reporting for 1099 government requirements.

TRANSAMERICA INSURANCE GROUP

Within the Transamerica Corporation, an insurance, financial, transportation and manufacturing Group with assets of $12 billion, the Transamerica Insurance Group is a wholly-owned subsidiary specializing in property and casualty insurance.

CAP GEMINI DASD's Los Angeles Branch had been providing a variety of consulting services to Transamerica for the past five years. One of the past projects was to convert their auto insurance rating system, which is distributed to field offices across the United States. The DASD consultants provided design, analysis, training and other technical support.

Because of a recent acquisition, Transamerica Insurance Group is involved in providing new services to the financial community. CAP GEMINI DASD is currently contributing to the development of the claims system, which coordinates twelve branches throughout the United States.

DEPARTMENT OF TRANSPORTATION

The US government has issued a mandate to all Departments to inventory their ADP applications. The Department of Transportation has long recognized the need for an inventory of ADP applications in order to effectively manage ADP resources.

CAP GEMINI DASD's Washington, D.C., Branch is assisting the Department of Transportation with this effort. CAP GEMINI DASD personnel spoke with representatives from all bureaus within the Department of Transportation as well as the U.S. Coast Guard, the Federal Aviation Administration and the Federal Highway Administration. After conducting a study of requirements for this inventory system, CAP GEMINI DASD has implemented a prototype model database using Cullinet Software tools IDMS and ADSO. CAP GEMINI DASD personnel will assist the client in using the prototype over the next year, both in building the applications inventory database, as well as in making design modifications to enhance its usefulness. The Department of Transportation plans to expand the applications inventory database to include long range planning and budget data. The inventory database will also be used to study the cost effectiveness of moving applications from commercial time sharing to in-house government computers.

CENTRAL BANK

Central Bank Corporation is a holding company for Central Bank of Denver, with over 1 billion dollars in assets, and twenty-two affiliated banks, with over 800 million dollars combined assets. Prior to January 1982, all data processing was performed by four service bureaus. CAP GEMINI DASD staff are engaged in a thirteen man-year project to convert the affiliated banks from their present systems to the main data center.

The project involves three major new systems. These fully integrated fourth generation software systems are:

- HOGAN, for demand and savings deposits, time certificates of deposit, retirement instruments such as IRA and KEOGHS,
- Automated Financial System (AFS) for commercial loan processing, and
- DATALINK for installment loans.

An aggressive schedule has been set for these conversions with fourteen affiliated banks converted in 1984, and the remaining eight scheduled for completion by May 1985. In addition to CAP GEMINI DASD's success at meeting conversion schedules, the staff's role has expanded to include some support for the maintenance of the HOGAN deposit systems.

IBM CONVERSION CENTER

CAP GEMINI DASD is assisting the National Distribution Division (NDD) of IBM, located in Atlanta, in the conversion phase of its Value-Added Remarketer (VAR) program. The objective of the VAR program is to educate the VARs on the IBM hardware and sales methodology, as well as provide necessary support and guidance to the VARs to sell their software with IBM/36 or IBM 4300 series computers.

One of the keys to the success of the VAR program is a timely and successful conversion. IBM NDD has established a conversion center to guide the VARs in their performance of this phase. CAP GEMINI DASD is training the conversion center personnel on CAP GEMINI DASD Conversion Methodology, especially planning, management, and quality assurance. CAP GEMINI DASD is providing conversion planning, management forms and instructions, machine-to-machine conversion considerations, and conversion consulting support.

If the VAR cannot perform its own conversion plan or its own conversion, CAP GEMINI DASD is one of a few vendors that IBM is recommending to the Value-Added Remarketer.

EDWARD WATERS COLLEGE

Edward Waters College, an historically black college located in Jacksonville, Florida, has selected CAP GEMINI DASD's Jacksonville Branch to be the principal consultant for its campus-wide telecommunications network with the capability of providing data, video and voice services, a fault-tolerant communications head-end, office automation, software support and a satellite hookup, allowing this Local Area Network to link the College to the Black College Network. This project will be spread over the next two years and includes a mass communications curriculum with radio and television broadcast teaching laboratories, an on-the-air radio station, and a journalism teaching laboratory.

THE DEVELOPMENT GROUP

Three-quarters of the Group's expansion since 1975 can be attributed to internal growth (see page 10). This rapid, sustained development of our existing structures would not have been possible in the absence of their ability to maintain high technical standards within a technological environment undergoing particularly rapid change.

The most basic of these technologies include those which affect the process of computerization of applications. In point of fact, these technologies condition the use made of DP resources, and CAP GEMINI SOGETI's activity lies primarily in the implementation of software and systems.

The Development Group's role is to identify the most significant new technical developments within this domain, as well as to evaluate the potential for and effectiveness of their use. Moreover, the Group seeks out corresponding opportunities, launches new activities, organizes the export of CAP GEMINI SOGETI products and services and provides liaison for cooperation between the CAP GEMINI SOGETI Group and companies in which it is not a majority shareholder.

During 1984, the Development Group registered a number of striking achievements in the context of its assignment:

- the MULTIPRO software engineering workshop is pursuing its career as an advanced development assistance tool: user/workstation dialogue has been enhanced, the first sizable order (for 500 workstations, from Banque Nationale de Paris) has been booked, three pilot sites have been installed in the USA, etc.
- besides MULTIPRO, other software-related "innovations" are on the drawing-board: ADA language, UNIX operating system, more systematic use of analysis methodologies, fourth-generation languages, expert systems, prototyping, etc. It seems increasingly probable that no "revolution" is to be expected in the medium term: above all, applications will be developed more rapidly, and will be more easily modifiable, thanks to the effects of a whole array of new approaches.
- cooperation between Groupe Bossard and the France Group companies has made it possible to tackle the problems of certain major customers in a more effective, all-encompassing manner.
- cooperation with SESA, a competitor company in which CAP GEMINI SOGETI acquired a 42% investment in 1982, was continued on the Electronic Directory project both in France and the USA, where a joint operation has been initiated for export of this star of French technology.

CAP GEMINI SOGETI is developing its technical capabilities in harmony with overall market change and development by putting together the experience gained from its many past operations, by itself investing in technological domains of fundamental importance to the Group, by taking cognizance of innovations that find genuine, practical use and by working in association with partners whose skills complement our own.

Michel JALABERT
Vice-President, Corporate Development

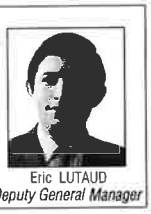
Jean-Jack LOUDES
Director

Jacques LESCAULT
Director

Main minority shareholdings:	
Groupe BOSSARD	49 %
SESA (Société d'Etude des Systèmes d'Automation)	42 %

CAP SOGETI INSTRUMENTS (Paris)

Michel JALABERT *Chairman*



Eric LUTAUD
Deputy General Manager

Bruno PERRIN *Technical Manager*

Jean-Loup PERRIN *Marketing Manager*

CAP GEMINI SOFTWARE PRODUCTS, INC. (Dallas)

Michel JALABERT *Chairman*

Eric LUTAUD *Deputy General Manager*

Bryan AUSTIN *Marketing Manager*

CAP SOGETI INSTRUMENTS works to design, develop and distribute the Group's software engineering products, with stress on the MULTIPRO software engineering workshop.

CAP GEMINI SOFTWARE PRODUCTS, headquartered in Dallas, distributes MULTIPRO in the U.S.A.

With MULTIPRO, DP managers have a software engineering workshop enabling them to consolidate the full set of methods and tools they need for software development and maintenance in an integrated, automated environment.

What does MULTIPRO include?

- individual workstations (IBM PC-XT or PC-AT, Dassault ECRIN, Bull Micral 30, Logabax Personna 1600, etc.) for standalone processing of all objects manipulated: text, symbols, graphs, diagrams, forms, source code, etc.,
- a development machine (IBM or Bull mainframe) for library management or generation of documentation, providing access to dedicated tools for compilation, tests, etc.,
- a "host" structure for accepting and automating the methods and tools used by the DP expert at each stage in a software product's life cycle and for sequencing the corresponding tasks.

Thanks to its architecture, moreover, and to the use of widely-available basic program products, MULTIPRO makes it possible to integrate software development functions with other functions such as office automation or documentary management.

An upward-compatible system, MULTIPRO is ceaselessly profiting from the increase in microcomputer performance levels and capabilities. A sample result: MULTIPRO's Bull Micral 30 and IBM PC-AT versions have been available since January 1985.

Already profitably used by a large number of the Group's clients in the banking, government and industrial sectors, MULTIPRO is also employed within CAP GEMINI SOGETI to help in the implementation of complex projects. For once, the cobbler isn't the worst shod...

Banque Nationale de Paris (BNP) has ordered a MULTIPRO software engineering workshop from CAP SOGETI INSTRUMENTS, which will deliver 500 workstations over a three-year period.

The version adopted by BNP uses Electronique Serge Dassault ECRIN hardware for workstations and communications interfaces.

Enhance working conditions for its DP professionals, accelerate the computerization of banking activities, improve the quality of software developed and lower its maintenance cost: these are the main goals of the big step being taken by BNP, assisted by the set of automated tools that comes wrapped in the MULTIPRO package.

GROUPE BOSSARD

Jean-René FOURTOU
Chairman

Jean-Pierre AUZIMOUR
Chairman, BOSSARD CONSULTANTS

Daniel MARTET
Chairman, FRANCE 1

Georges GOURY
Administrative and Financial Manager

Total revenue:
FF 300 million

Workforce: 400

With total revenue up by over 45% and primarily derived from established client sectors, 1984 would nevertheless appear as a year of consolidation for Groupe BOSSARD.

Some striking observations in this regard:

- BOSSARD CONSULTANTS' broad advance, backed by an increasingly solid reputation, which has made the firm France's leading management consulting house (160 consultants). Specifically, the year has brought:
  — an increase in the number of large contracts with major groups such as Thomson, Péchiney, Bosch, SAE and Picard,
  — a significant penetration of the local government market, doubtless related to the question of regional decentralization in France;
- the consolidation of FRANCE 1 in the area of medical consulting and advertising, where the company has easily confirmed its front-running position,
- the increasing prominence of ORES Consultants, whose executive search activity has – according to the most recent surveys – placed it in the number two slot for France,
- the performance of the EDINTER team which – five years after the launching of the bimonthly IMPACT MEDECIN – has managed to make this magazine the country's best-selling weekly medical publication, with an average circulation of 45,000 copies.

SESA

Jacques ARNOULD *Chairman*

Michel FIEVET *General Manager*

André SACHS *Deputy General Manager*

SESA showed 1984 consolidated total revenue of FF 735 million, outstripping 1983 sales by over 36%. Consolidated net income amounted to FF 22 million.

The company enjoyed sustained growth in the data communications network field, in which it holds a significant position: in France, with extensions of the TRANSPAC network, and abroad, with the supply of numerous public and private networks. The latter include a major expansion of the Australian public network, and new private networks in Italy and in the U.S.A., where SESA signed an agreement last year with Paradyne. An initial contract with the People's Republic of China was also signed at the end of 1984.

Extensions to the Electronic Directory service are being implemented jointly with CAP SOGETI LOGICIEL. A consortium was created in order to reinforce the cohesion of implementing teams. This consortium, which received its first order from the French PTT at the close of 1984, is also tasked with exporting the French system, with North America as its prime target. The computerized telephone information system installed by SESA is being expanded in stages.

In the defense and aerospace sectors – traditional fields of SESA activity – the company continued the automation of the French Tactical Air Force's command system, and developed its communications and observation satellite control activity.

Finally, in the industrial and service domains, SESA consolidated its position as a systems supplier for computer-integrated manufacturing and automated process control, and commenced major operations in the banking sector.

THE GROUP'S PROFESSIONALS

WORKFORCE GROWTH

CAP GEMINI SOGETI had a total workforce of 4,534 as of 31 December 1984, including the 40 odd members of holding company staffs (graph 1), representing an average increase of 14.6 % over 31 December 1983 and the net creation of 577 new jobs in a single year.

In France, this increase in employee numbers showed the same pace as in 1983: +194 as compared with +187 for the preceding year. On the other hand, growth was faster for the rest of Europe (+316 in contrast to +111) and for the U.S.A. (+67 vs. +30). This confirms the fact that the France Group's growth rate has hovered around 10 % over the past several years, while that of the Europe Group is subject to strong fluctuation: +25% in 1984, +13% the preceding year. In turn, the USA Group would seem to show more cautious growth; still, consolidation of this Group's three original companies into a single unit has resulted in an improved ratio between administrative and operational positions, yielding strong growth in the latter category.

Considering only personnel directly participating in the activities of the operational groups – i.e., excluding the 43 members of the holding companies – we observe that, on 31 December 1984 (graph 2)

- France accounted for 51% of the total workforce, with 2,301 employees
- the remainder of Europe represented 28%, with 1,273 employees
- the USA weighed in at slightly over 20%, with 917 employees.

In comparison, we recall that France still accounted for nearly three-quarters of the total 1975 workforce and nearly 62% of the total workforce in 1981.

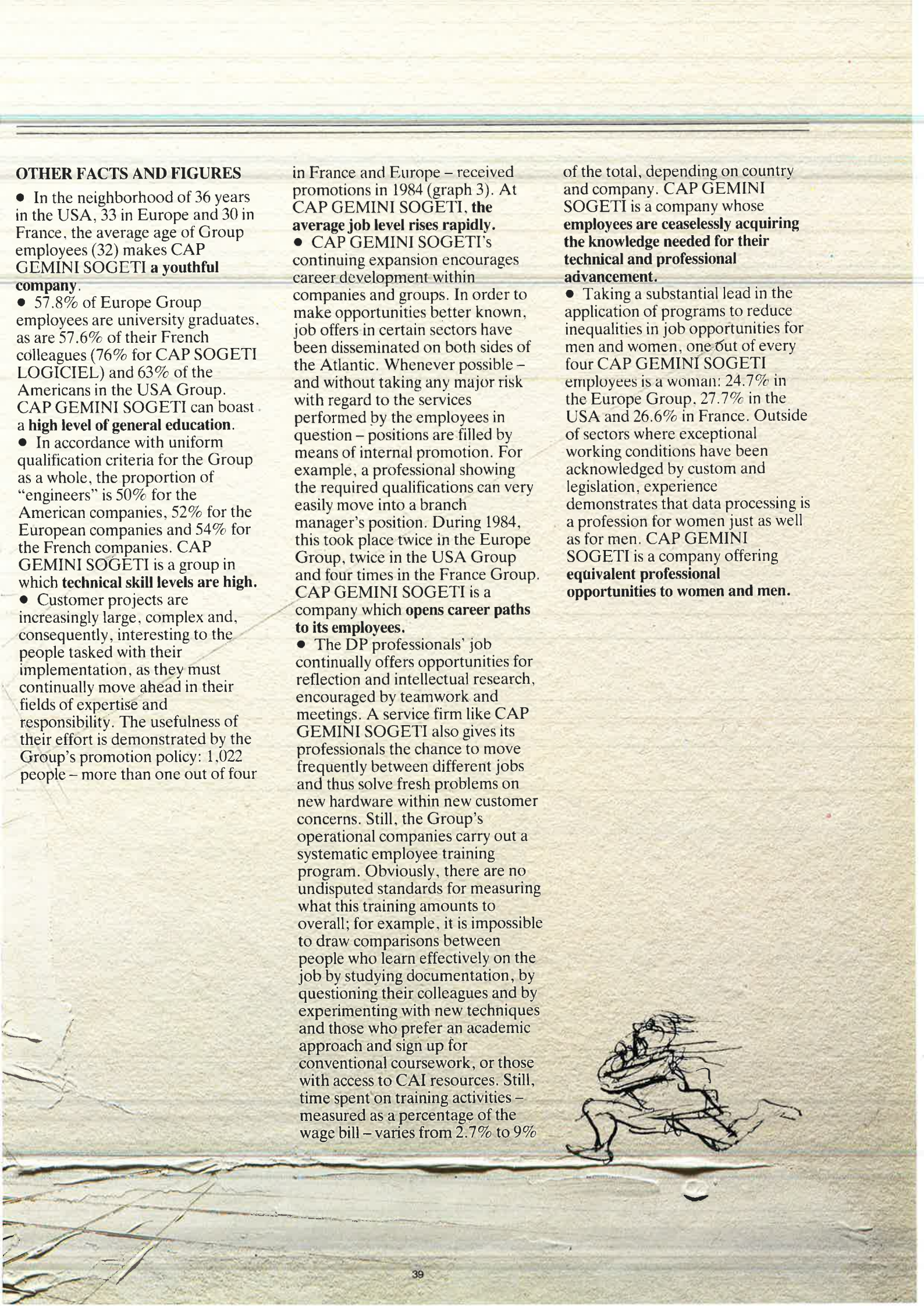
GRAPH 3
Percentage of workforce awarded job promotions
(France + Europe)

GRAPH 2
Geographic distribution of workforce
at 31 December 1984 (excl. holding companies)

GRAPH 1
Total workforce
at 31 December 1984 (excl. holding companies and processing/data entry activities)

OTHER FACTS AND FIGURES

- In the neighborhood of 36 years in the USA, 33 in Europe and 30 in France, the average age of Group employees (32) makes CAP GEMINI SOGETI **a youthful company**.
- 57.8% of Europe Group employees are university graduates, as are 57.6% of their French colleagues (76% for CAP SOGETI LOGICIEL) and 63% of the Americans in the USA Group. CAP GEMINI SOGETI can boast a **high level of general education**.
- In accordance with uniform qualification criteria for the Group as a whole, the proportion of "engineers" is 50% for the American companies, 52% for the European companies and 54% for the French companies. CAP GEMINI SOGETI is a group in which **technical skill levels are high.**
- Customer projects are increasingly large, complex and, consequently, interesting to the people tasked with their implementation, as they must continually move ahead in their fields of expertise and responsibility. The usefulness of their effort is demonstrated by the Group's promotion policy: 1,022 people – more than one out of four in France and Europe – received promotions in 1984 (graph 3). At CAP GEMINI SOGETI, **the average job level rises rapidly.**
- CAP GEMINI SOGETI's continuing expansion encourages career development within companies and groups. In order to make opportunities better known, job offers in certain sectors have been disseminated on both sides of the Atlantic. Whenever possible – and without taking any major risk with regard to the services performed by the employees in question – positions are filled by means of internal promotion. For example, a professional showing the required qualifications can very easily move into a branch manager's position. During 1984, this took place twice in the Europe Group, twice in the USA Group and four times in the France Group. CAP GEMINI SOGETI is a company which **opens career paths to its employees.**
- The DP professionals' job continually offers opportunities for reflection and intellectual research, encouraged by teamwork and meetings. A service firm like CAP GEMINI SOGETI also gives its professionals the chance to move frequently between different jobs and thus solve fresh problems on new hardware within new customer concerns. Still, the Group's operational companies carry out a systematic employee training program. Obviously, there are no undisputed standards for measuring what this training amounts to overall; for example, it is impossible to draw comparisons between people who learn effectively on the job by studying documentation, by questioning their colleagues and by experimenting with new techniques and those who prefer an academic approach and sign up for conventional coursework, or those with access to CAI resources. Still, time spent on training activities – measured as a percentage of the wage bill – varies from 2.7% to 9% of the total, depending on country and company. CAP GEMINI SOGETI is a company whose **employees are ceaselessly acquiring the knowledge needed for their technical and professional advancement.**
- Taking a substantial lead in the application of programs to reduce inequalities in job opportunities for men and women, one out of every four CAP GEMINI SOGETI employees is a woman: 24.7% in the Europe Group, 27.7% in the USA and 26.6% in France. Outside of sectors where exceptional working conditions have been acknowledged by custom and legislation, experience demonstrates that data processing is a profession for women just as well as for men. CAP GEMINI SOGETI is a company offering **equivalent professional opportunities to women and men.**



THE GROUP AND ITS PROFESSIONALS: GROWING HAND IN HAND

Our Group's growth depends, naturally, on our market, our customers, the quality of our services, our financial solidity and the stringency of our management.

But it is also very substantially dependent on the men and women who make it up, through their personal growth and development. Development of the individual and the Group thus shows an aspect of reciprocity which must be ceaselessly maintained and renewed.

Fredrick Herzberg *, whose original contributions in the area of motivation are considered authoritative on both sides of the Atlantic, proposes a six-point scenario for personal growth:

- keep on learning,
- expand your vision,
- be creative,
- confront uncertainties,
- assume personal responsibility,
- accept yourself for what you are.

We have taken these points as frames of reference in order to arrive at a better understanding of how and why personal growth in and through work has become a major component in motivating the Group's 4,500 employees and the thousands of job applicants who ask to join us every year.

(*) American business economist, professor of industrial psychology, originator of the concept of task enrichment in corporate activity.

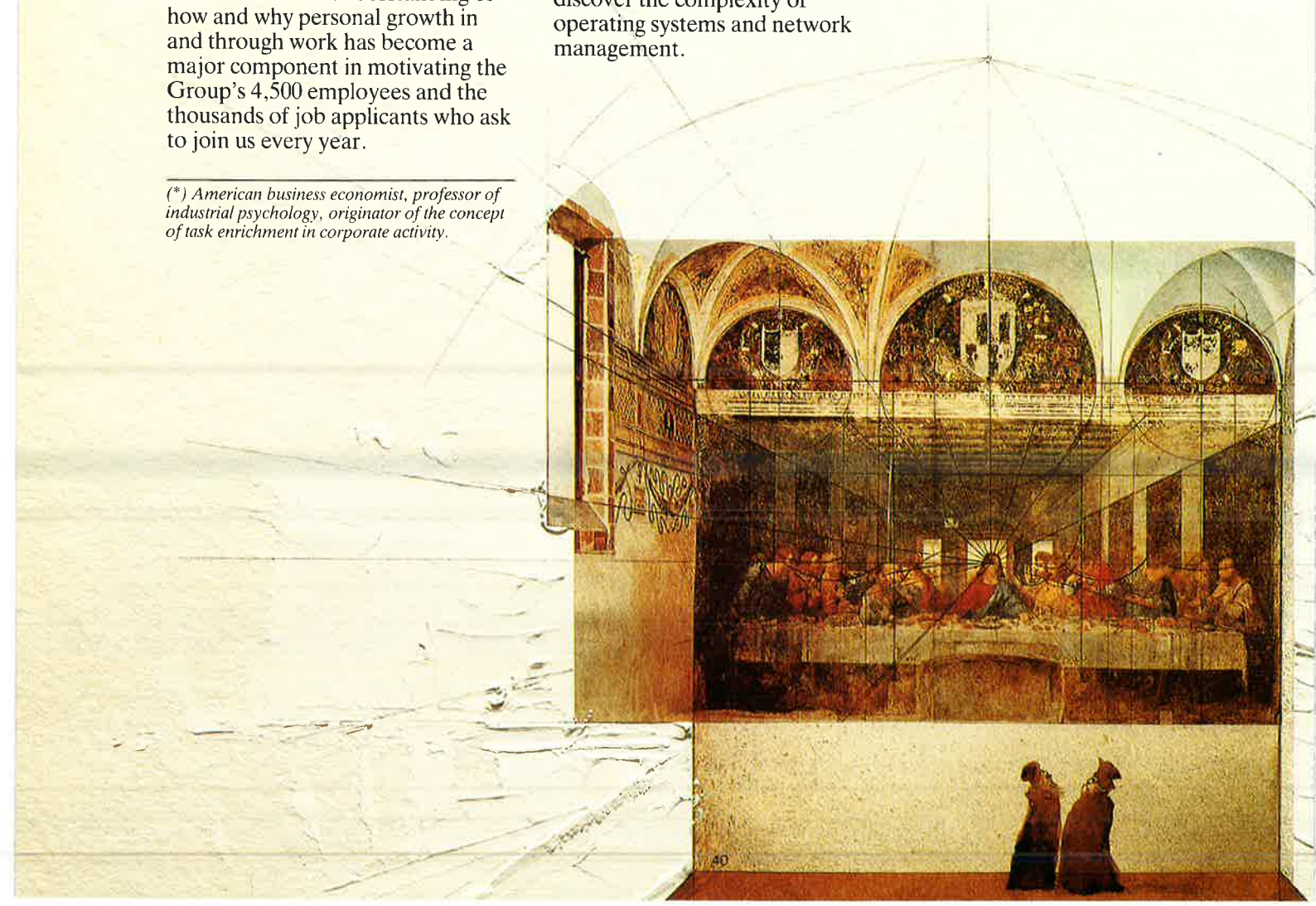
KEEP ON LEARNING

The statistics on page 39 stress the significance of this first element in the personal development of CAP GEMINI SOGETI's professionals. They are youthful, they are highly educated and they belong to a Group in which the enhancement of knowledge and skill is viewed as a permanent, vital necessity. Beyond opportunities for formal training, their trade daily offers them the chance to learn more, to understand better, to acquire fresh knowhow:

- building programs line by line, they learn the richness, the variety and the uniqueness of computer languages,
- designing the organization of a program sequence or the architecture of a network, they become familiar with a business which they are modeling, so to speak,
- executing command tasks for a DP ensemble, preparing data for a management application, they discover the complexity of operating systems and network management.

EXPAND YOUR VISION

For Herzberg, professional maturity necessarily involves an increasing appreciation of the relationships between the various components of the employee's knowledge. Experience and comprehension are constantly being enriched in all the tasks carried out within CAP GEMINI SOGETI, and especially those involving the analysis and design of applications, the drafting of plans, the establishment of diagnostics. These tasks are not achievable or enriching, however, unless their ultimate purpose is known. This desire to know more also provides incentive for discovery and greater appreciation of the meaning of work, its role within team activity, and its finality: service to the customer.



BE CREATIVE

Research, creativity, innovation all pervade the daily life of the CAP GEMINI SOGETI professional. Whether it is a matter of disseminating leading-edge technology, of validating new concepts defined in the context of pilot projects or – more routinely – of adapting and improving existing software and services, the intellectual contribution is a creative one.

Sales representatives and branch managers owe the discovery of new sources of market growth as much to their imaginativeness as to the frequency of their customer calls. Insofar as CAP GEMINI SOGETI is concerned, it is quite rightly that DP has been described as a set of solutions seeking problems to be solved: customers' problems! The collective and individual creativity of the engineers and technicians in all of the Groups' companies increase its already substantial capital of innovative applications of the DP tool.

CONFRONT UNCERTAINTIES

Every human being needs a vital minimum of security. But this person will remain an eternal child if he cannot manage to recognize and confront the complexity, the instability and the insecurity of the world. To assume this insecurity, to accept change is, Herzberg says, an essential element of personal growth and maturing.

It is often said that DP professionals have the advantage of working in a booming market: this is reassuring, of course, but what really motivates the professional is the fact that nothing is definitively won in this occupation. Specifically, DP service obliges its practitioners to remain unsatisfied with any new gain in knowledge or knowhow. It forces them to ceaselessly take up the challenge of an art and a market undergoing constant change, and of new situations sometimes replete with unforeseen elements and events.

ASSUME PERSONAL RESPONSIBILITY

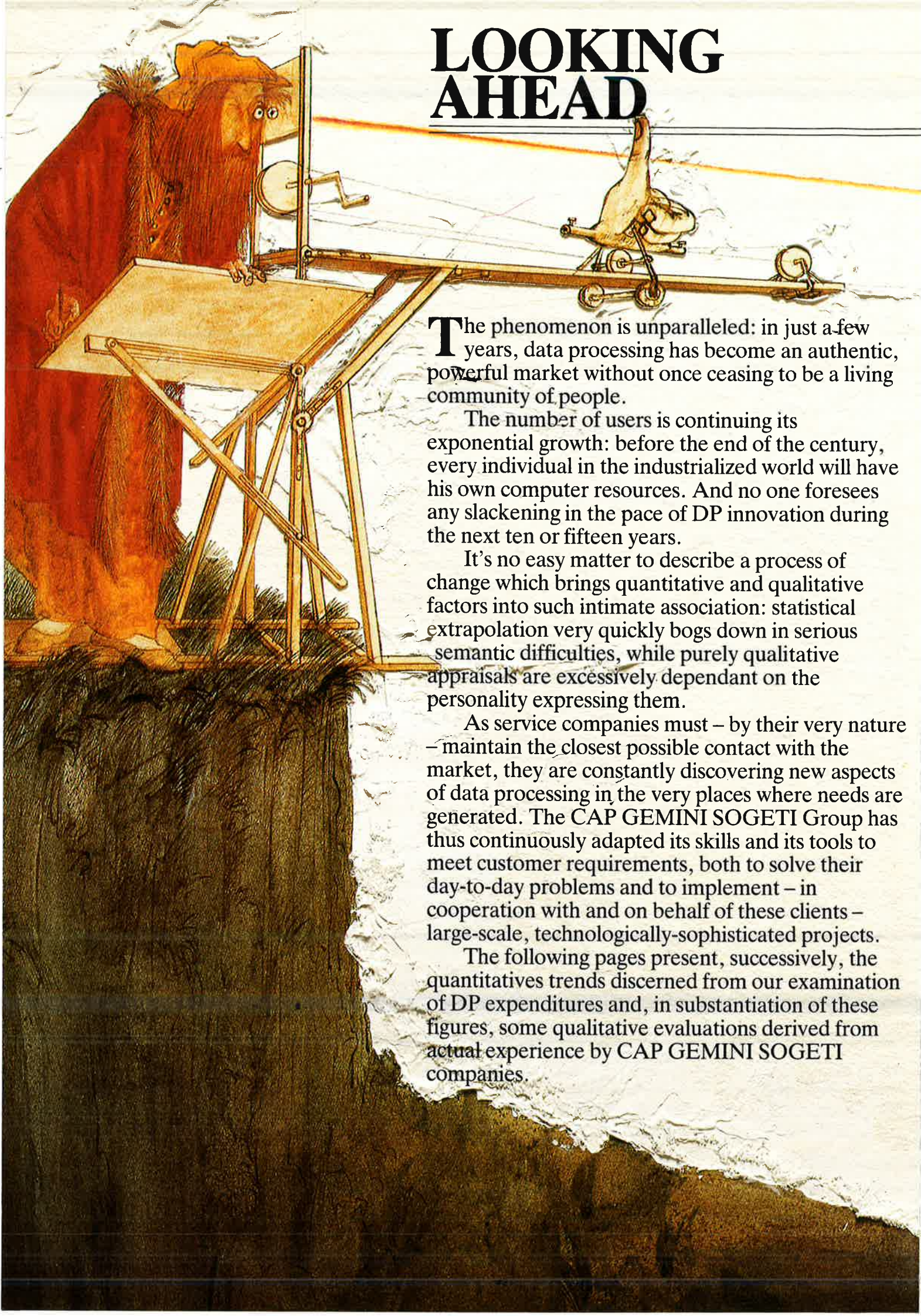
This team spirit and sense of shared responsibility at all levels form part of CAP GEMINI SOGETI's history and its system of values. But interdependence, mutual assistance and collective effort never mask the contribution made by the individual, his or her personal responsibility – or even solitude when faced with a job to be done. For Herzberg, this "individuation" is essential to development of the personality, and is one of the signs that adult behavior has been mastered. Our practice of "goal-oriented management," while providing each employee with the technical resources and ceaseless encouragement that he needs, reminds him of what ultimately depends upon his achievement of his own goals.

ACCEPT YOURSELF FOR WHAT YOU ARE

G. B. Shaw first said it, and Robert Kennedy repeated it: You have to be able to dream, to imagine things that have never existed and to ask yourself: "Why not?" The development of our trade, our progress as a Group and as individuals depend on it. This said, it is no less true that the individual's true maturity – still according to Herzberg, echoing Socrates – does not exist without a profound and honest understanding of himself, of his unexploited capabilities and of his limitations.

In the CAP GEMINI SOGETI Group, every employee is assisted – particularly by means of career and evaluation interviews – in making a realistic assessment of this capabilities: this is the starting point for any personal growth. The history of our Group and of its people shows that a genuine self-knowledge is the first step in excelling oneself. We are merely mankind... but mankind has walked on the moon.

LOOKING AHEAD



The phenomenon is unparalleled: in just a few years, data processing has become an authentic, powerful market without once ceasing to be a living community of people.

The number of users is continuing its exponential growth: before the end of the century, every individual in the industrialized world will have his own computer resources. And no one foresees any slackening in the pace of DP innovation during the next ten or fifteen years.

It's no easy matter to describe a process of change which brings quantitative and qualitative factors into such intimate association: statistical extrapolation very quickly bogs down in serious semantic difficulties, while purely qualitative appraisals are excessively dependant on the personality expressing them.

As service companies must – by their very nature – maintain the closest possible contact with the market, they are constantly discovering new aspects of data processing in the very places where needs are generated. The CAP GEMINI SOGETI Group has thus continuously adapted its skills and its tools to meet customer requirements, both to solve their day-to-day problems and to implement – in cooperation with and on behalf of these clients – large-scale, technologically-sophisticated projects.

The following pages present, successively, the quantitatives trends discerned from our examination of DP expenditures and, in substantiation of these figures, some qualitative evaluations derived from actual experience by CAP GEMINI SOGETI companies.

EXAMINATION OF DP EXPENDITURES

The term "DP industry" is usually employed to cover both hardware manufacturers and service companies, as all of these suppliers of goods and services work for a single market: that of all DP users. Although this market is not easily quantifiable – particularly due to growing sales of computers and software in the relatively uncharted consumer realm and their increasingly systematic use in any more-or-less-sophisticated item of equipment – it is important that we familiarize ourselves with its components, in order to be able to discern its main trends and prospects for future years.

In the case of a service company such as CAP GEMINI SOGETI, any analysis of market trends involves an investigation of the long-term behavior of three essential, closely-interleaved factors:

- total expenditures for computerization by users,
- share of these expenditures allocated to software and related services, whether for implementing new computerized applications or for ensuring the satisfactory operation of existing ones,
- share of these software expenditures corresponding to services rendered either by service firms or by computer vendors ("outside" expenditures).

Developments in each of these factors are successively analyzed in the following paragraphs.

TOTAL EXPENDITURES FOR COMPUTERIZATION

During the '70s, virtually all DP expenditures originated with the DP departments of the major computer users. Two factors have tended to modify this situation during the past few years:

- Increasing numbers of end users (departments or decentralized subsidiaries of large companies, up-to-date manufacturing units, small business, professionals, businessmen and, now, personal computer users) are obtaining access to computer facilities. In this regard, it should be noted that the use of microcomputers by a large number of end users (nearly 10 million worldwide at the end of 1984) is generating a substantial demand for communication between devices and with major computer centers. This is resulting in a) an increase in mainframe time consumption and b) installation of powerful data communications infrastructures.
- Manufacturers are integrating programmed DP subassemblies into their products in order to perform specific functions: functions which are either new (e.g., electronic injection in auto engines) or which had formerly been entrusted to electromechanical devices (e.g., telephone switching).

It is estimated that DP expenditures originating outside of DP departments, which accounted for only 5% of total outlays in 1973, now represent over 15%, a figure which will probably rise to 25% in 1990. In view of this phenomenon, and of the fact that expenditures by DP departments themselves are also rising substantially from year to year, observers everywhere are in full agreement: this growth in spending will continue at a sustained rate, at least equalling that observed during the preceding ten years.

Worldwide DP expenditures, totalling $ 190 billion in 1983, will grow at an average annual rate of 8% (in constant dollars) up to the 1990 horizon; at that time, per capita DP outlay in the USA will approach $ 1,000 (in contrast to less than $ 500 in 1983).

In France, annual DP expenditure was about FF 22 billion in 1973; this figure had risen to FF 113 billion in 1983 (for 2.8% of GNP and FF 2,000 per capita), and will reach FF 200 billion in 1990, for an average annual increase of 10% (in constant francs).

SOFTWARE AND RELATED SERVICES

DP department expenditures are customarily divided into three categories: in-house DP personnel, DP hardware, other expenditures (services, telecommunications, supplies, etc.). As the diagram opposite shows, the latter two expense categories cover sales by the DP industry to this customer type. In the case of customers who integrate DP components into their own products, the hardware used very frequently consists of microprocessors supplied by the electronic components industry, with software implemented either in-house or by a service company.

The diagram below also shows that expenditures required for implementation of new applications and maintenance of existing ones – i.e., expenditures for software and related services – are represented by:

- a significant fraction of in-house personnel expenditures (for designers, analysts and programmers employed by the user or by the manufacturer himself),
- outside expenditures made primarily to service firms for services or off-the-shelf solutions.

A study recently carried out in France for the Agence de l'Informatique has measured the share of expenditures for software and their growth between 1973 and 1983. These expenditures have increased in value by a factor of 7.5 (in current francs) during this period, reaching FF 37 billion in 1983. Their share within total expenditures rose from 22% in 1973 to 33% in 1983, and it is estimated that they will reach 40% at the 1990 horizon.

Identical trends are observed on the worldwide level: in the USA, according to certain sources, software already accounted for nearly 40% of corporate DP expenditures in 1983.

THE DP SERVICE INDUSTRY

Having observed the continuing increase in expenditures for computerization, and having measured the growing share of this spending for software and related services, we can now analyze the third factor mentioned at the beginning of this section. Here, too, we note a rising growth curve, with an increase in subcontracting and outside purchases of software and services. A few figures clearly illustrating this trend:

- **In the USA** (according to Input and ADAPSO*), service industry revenues rose from $ 6 billion in 1973 to $ 32 billion in 1983, moving from 13% to 30% of total DP spending during that interval.

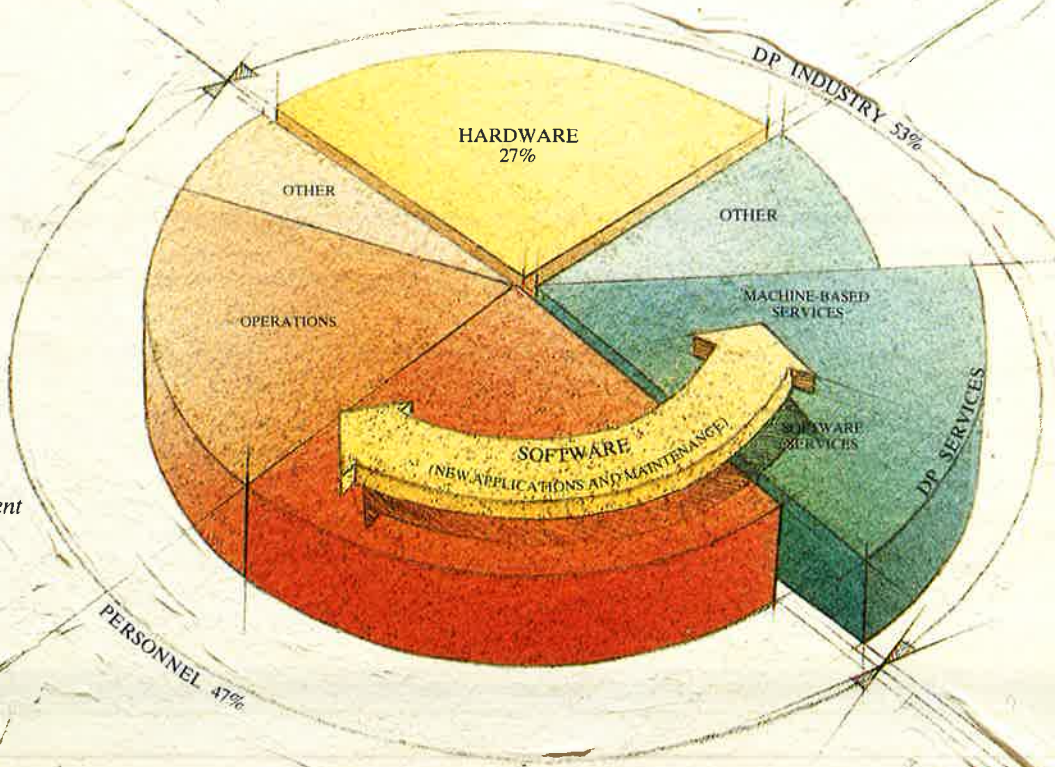
* *Association of Data Processing Service Organizations*

THE DATA PROCESSING INDUSTRY

HARDWARE INDUSTRY
Computers
Mainframes
Minicomputers
Microcomputers
Special-purpose computers
Peripherals
Terminals
Backup memory
Printers
Special-purpose readers
Data transmission hardware
Modems
Concentrators
Multiplexers

SERVICE INDUSTRY
Software services
DP consulting and assistance
Software and systems development
Program products
Operations management
Training
Machine-based services
Service bureau
DP energy distribution
Network services
Data entry
Distribution of information

BREAKDOWN OF DP DEPARTMENT EXPENDITURES FOR A TYPICAL LARGE USER
(percentages from 1984 french study for Agence de l'Informatique)



• **In France,** according to Ministry of Industry statistics, service company sales rose from FF 1.5 billion in 1973 to FF 13 billion in 1982. By adding the manufacturers' "service" activity (not included in the French statistics, in contrast to those for the USA), these revenues accounted for 9% of DP expenditures in 1973 and rose to 22% in 1982.

• **Within the European Economic Community,** according to EEC sources, the DP service industry showed revenues of 5 billion ECUs in 1981, as compared with 900 million ECUs in 1973 (the ECU is the EEC members' common currency). Once again adding vendors' "service" revenues, these amounts would account for 10% of EEC DP expenditures in 1973 and 21% of 1981 expenditures.

Looking ahead, ADAPSO experts estimate that American users will be spending on the order of $ 90 billion for services – **one-half** of total DP expenditures – by the end of the decade.

FAVORABLE TRENDS

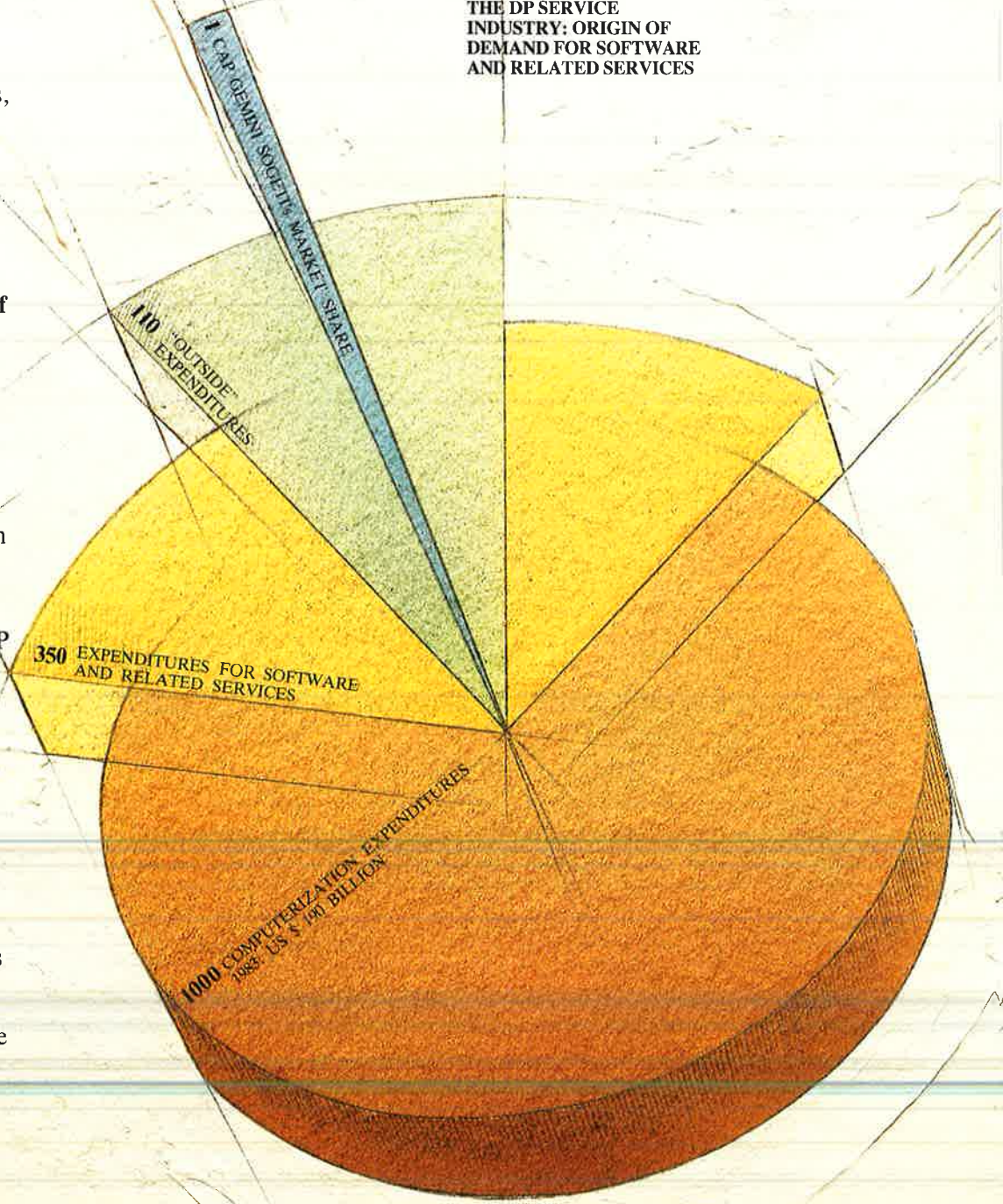
The favorable conjunction of these three factors (continuing increase in total computerization expenditures, even stronger growth of expenditures for software and services, rising share of "outside" expenditures within the total) has resulted in a rapid growth of the DP service industry during the past decade, and particularly of that industry segment devoted to "software services" (in contrast to "machine-based services," whose growth has been braked by very rapid technological change).

Between 1973 and 1983, this industry has grown by 25% to 30% annually (in current currency) within the "USA + Western Europe" grouping (which accounts for 85% of world DP expenditures!): a growth rate substantially higher than that of the DP industry as a whole.

As for the future, estimates published by the leading market analysts confirm the views held by the managers of CAP GEMINI SOGETI's European and American operational units: no slowdown in observed growth can be foreseen for the years ahead.

Other studies, conducted by IDC (IDC and Input are the largest international market research companies specializing in data processing) and Pierre Audoin Conseil (a French market study organization), indicate growth rates for the software service sector of between 20% and 29% in current currency.

THE DP SERVICE INDUSTRY: ORIGIN OF DEMAND FOR SOFTWARE AND RELATED SERVICES



With the acceleration of technological advance, and under worldwide environmental pressures, all segments of the economy are looking to computerization for a solution to their problems of modernization, productivity and communication. This general trend is accompanied by phenomena more specific to DP structures:

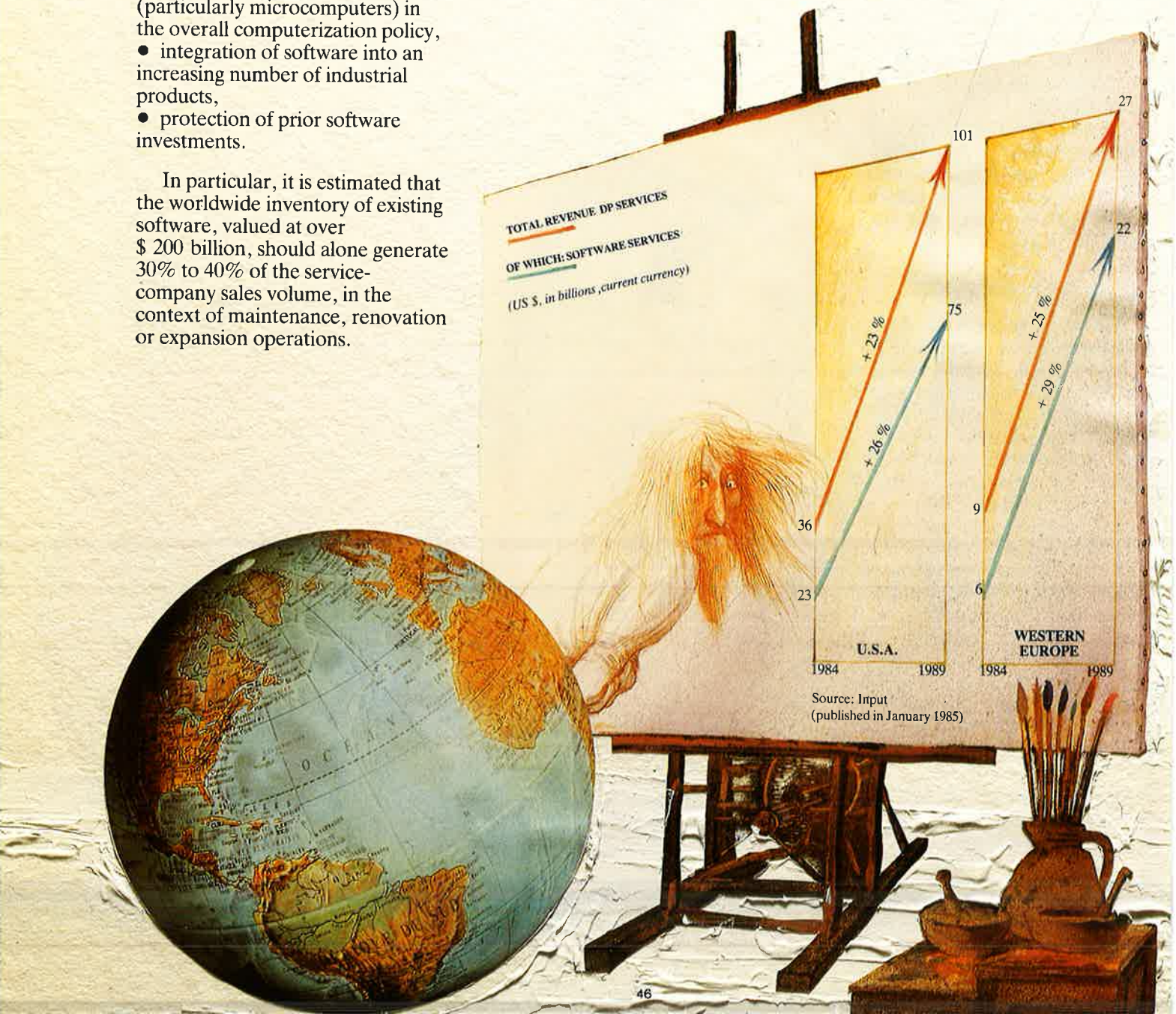
- effort to gain independence from hardware vendors: use of standards, differing architectures, conversion of applications,
- concern for increasing DP department productivity and desire to limit in-house personnel costs,
- integration of new products (particularly microcomputers) in the overall computerization policy,
- integration of software into an increasing number of industrial products,
- protection of prior software investments.

In particular, it is estimated that the worldwide inventory of existing software, valued at over $ 200 billion, should alone generate 30% to 40% of the service-company sales volume, in the context of maintenance, renovation or expansion operations.

Although no situation can be viewed as definitive, CAP GEMINI SOGETI's current strategic policies of:

- absolute financial independence,
- specialization in software services (software, systems, consulting, assistance),
- accelerated investment in new methods and tools,
- geographic diversification on the world's major markets

are favorable to its continued expansion under positive mid-term and long-term conditions of profitability. These policies guarantee service of lasting quality and high skill levels in new technologies to the Group's customers.



The amazing development of hardware and components is a matter of general knowledge: from one year to the next, component costs are dropping by 20% or 30%, while device complexity is doubling for a given surface area.

What is less known is that this development would never have taken place, and would not be continuing at such a pace, if software had not made it possible to design and manufacture such highly-integrated assemblies.

Without a computerized representation of a component's circuits, and without the ability to software-test each of the future chip's tens of thousands of connections and functions, today's level of integration would never have been reached. And it is also by executing the instructions of a specially-written program that a computer prints out bank statements, that it recognizes words and images, that it guides a robot, and so on...

Software is the future of data processing

THE INDUSTRIALIZATION OF SOFTWARE

Software production consists in the writing of instructions to be machine-executed in order to solve a problem and satisfy a customer need. The problem or need is represented by a model having two aspects: one, termed an "algorithm," is a succession of logical stages leading to the desired result; the other describes the structures of data to be processed. Just as an architect's drawings are progressively transformed into the concrete reality of a building, customer requirements are translated into a coherent set of instructions and data. The history of past years has been that of a group of combined and convergent efforts made to improve programmers' productivity, generate better translations of algorithms, build more stable data structures and arrive at an enhanced grasp of needs.

The future of data processing will be dominated by industrialization of software

It has been estimated that programmer productivity increased tenfold between 1970 and 1985. We can look forward to an even more rapid improvement. Still, the concept of "productivity" will always be hard to define: software is the world's only artefact for which the prototype is also the finished product. Industrialization will take place by progress along, and convergence of, paths currently being followed. Nonetheless, this evolution will necessarily take existing factors into account, such as the inertia of established structures and patterns of thought. For example, 80 % of all programs used today are written in COBOL, a language introduced a quarter of a century ago!

The "language" route

Data processing has made use of languages which are increasingly powerful, increasingly removed from binary machine code, increasingly easy to comprehend, increasingly structured, increasingly easy to use. These languages are developing in a number of directions. Languages belonging to the so-called "fourth generation" are aimed at enabling the user himself to program his application: in all probability, their usefulness will be limited to modestly-sized applications. Another trend (well-represented by ADA, a language adopted by the US Department of Defense for eventual replacement of the 400-odd languages currently in use) envisages the long-term cataloging of reusable software "components," whose performance levels and interfaces will be fully known.

Finally, one of the most recent trends lies in the introduction of artificial intelligence techniques into programming, an approach pioneered nearly twenty years ago to produce a language such as LISP.

The "tool and workshop" route

Software production does not simply involve the fabrication of instruction lines on the basis of detailed specifications: it also means writing the accompanying documentation. It also means program debugging and, finally, program maintenance. Recent history has shown the progressive integration of a range of software tools, contributing to one aspect or another of the production cycle, into veritable "workshops" (such as MULTIPRO, the software engineering workshop developed and marketed by CAP GEMINI SOGETI: see page 41), combining user-friendly man-machine interaction and a cohesive set of tools.

There is no doubt that this development will continue. The handicraft approach will gradually give way to more industrial forms of organization, although workshops will not turn into "software factories," as data communications will permit the decentralization and enrichment of programmers' tasks. Nonetheless, total integration – from the expression of requirements to program startup – will probably require new breakthroughs in research.

The "formalization" route thus consists in stating a problem in a pure form (language, database, knowledge base) which represents it faithfully, which is homogeneous and coherent, and which permits automatic program generation. The path is a long and arduous one, requiring intensive investigation into theoretical, mathematical and DP contents. In the meantime, the "artificial intelligence" route will assists specifiers and programmers in their duties at various points along the production cycle.

All of these paths are converging: the history of data processing shows us that technology has always come up with the right answers whenever users really needed them. We can thus anticipate that industrialization will enable us to face up to the explosion in software demand which will mark the end of this century... as long as competition and creativity remain the market's guiding rules.

NETWORK TRANSPARENCY

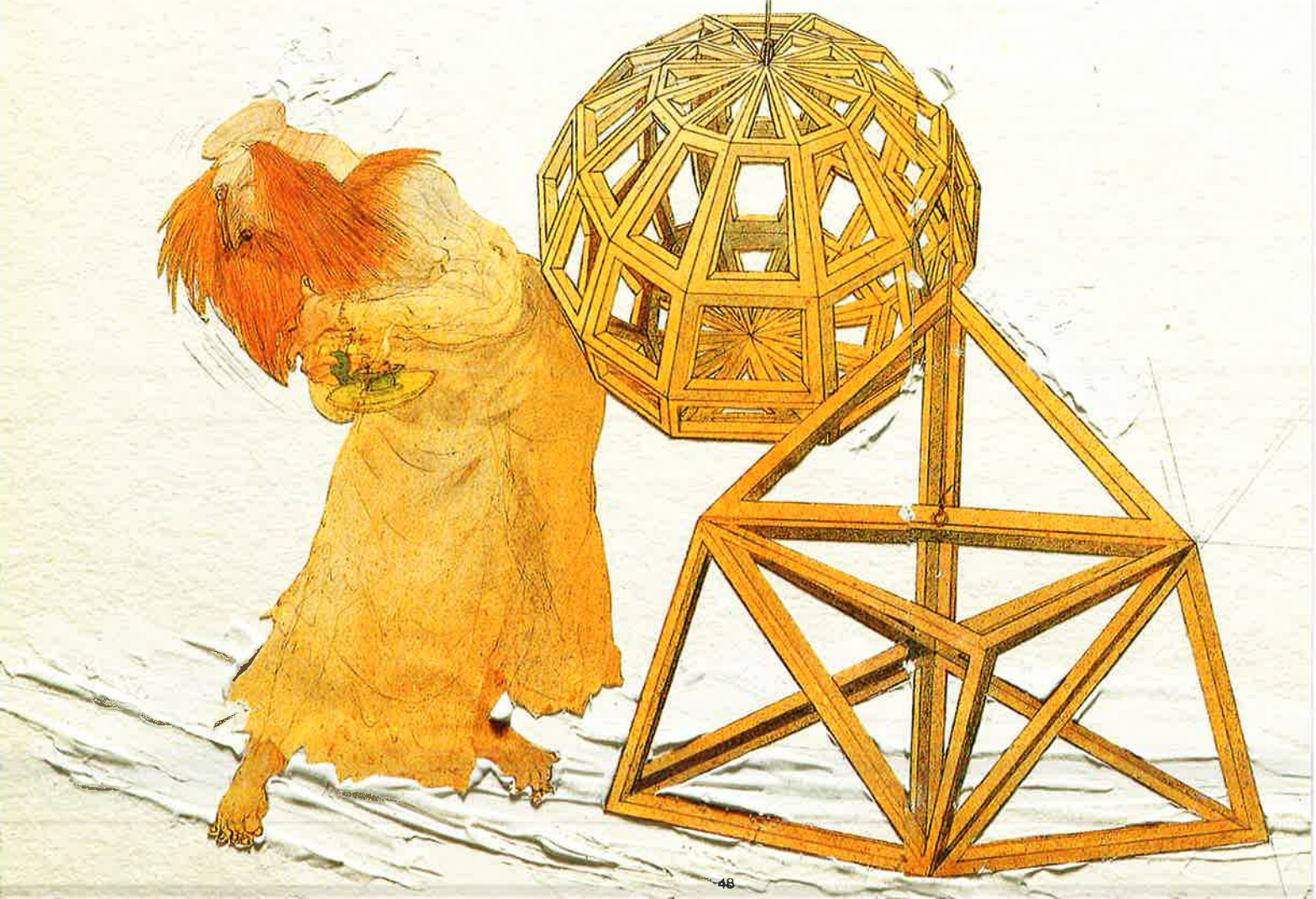
By the end of this decade, **workstations** will all be in the form of microcomputers with memory capacities in the megabytes and performance levels at least equalling those of today's minicomputers.

All users will also have access to intelligent pocket terminals and/or microprocessor cards as veritable satellites to these workstations. Mainframes will have undergone comparable power boosts, with a proliferation and specialization of processors. These two levels will be interconnected by a burgeoning set of **networks** – rather, "networks of networks" – themselves populated by computers. Within offices and workshops, moreover, applications will become increasingly communicative, and prime emphasis will be placed on their intercommunication.

What we now call "office automation" or "computer-integrated production" will thus become indistinguishable from data processing itself, and data processing will be the joining of geographically-separated systems interconnected by networks.

Establishement of communication extends well beyond the setting up of transport networks such as TRANSPAC. The "objects" of data processing themselves (messages, bills, etc.) will have to be "understood" – as well as transmitted – between systems. This conceptual task is inseparable from the construction of international standards. Software will thus be installed in successive layers within each machine. Diversity of networks – local or otherwise – will become the rule, and transparency will be a user demand. The user will no longer allow himself to be concerned about what happens between his query – spoken or entered by keyboard – and the system's response, itself in spoken or readout form.

Still, transmission technology itself will not cease to be enriched: the integration of services, voice, data and images, availability of much greater bandwidths via optical fiber or satellite links.



FREEDOM OF CHOICE

Independence in dealings with all manufacturers, asserted and upheld by service firms such as CAP GEMINI SOGETI since their earliest days, makes it possible to construct solutions adapted to a necessarily variegated environment. Users increasingly wish to be able to interconnect hardware of differing origins, types and structures without having to call their initial investments into question. Moreover, these solutions are themselves increasingly constructed on the basis of software units which are relatively independent of one another.

The most recent trends – and particularly the interest generated by the UNIX operating system – are confirmation of this desire for independence. Programs are going to become increasingly portable, from the largest to the smallest machines. It is hard to tell which operating system will ultimately gain the upper hand, especially as the giants, IBM and ATT, are soothing one another by adopting each other's, operating system.

Still, the upper "layers" of system software will include all of the modern resources for efficient **man-machine communication** (windows, graphics, etc.).

In parallel, **artificial intelligence** has just begun to take off, and everything leads us to believe that it will find its place within data processing, conferring an added degree of independence upon the latter. Instead of combining special processing operations and conditions in a single program, a fresh separation is being engineered: on one hand, an invariant logical kernel (often termed an "inferential engine"); and, on the other, the rules representing all human knowledge within a specific domain.

Expert systems will increasingly contribute their flexibility and their learning capacity to the very process of software production.

Finally, users will demand greater freedom from the strictures of hardware and software failures. Reinforced by greater hardware redundancy, systems will show growing fault-tolerance.

Data processing initially busied itself with numerical values, then with "data" in the wider sense; now, it is manipulating knowledge itself. All of the new advances are joining forces: computer-aided design of VLSI circuits; multimedia, mutisensory man-machine communication; concurrent processing; artificial intelligence; increasing importance of communications standards, and so on. Not one of these activities is independent of the others. And CAP GEMINI SOGETI quite naturally incorporates all of them into its DP consulting and service operations.

All of these advances act to reinforce one another. Quality levels are rising, and each technical breakthrough yields a fresh advance in the use of DP resources. Manufacturers and service firms must contribute their share of creativity if they want to broaden their customer base.

Moreover, each new development generates additional software requirements.

There is thus a concordance between statistics and qualitative trends: computerization is becoming a universal phenomenon, the relative weight of software is increasing, all users want to make optimal and unfettered use of technological resources, demand for DP Services is continuing to grow.

COMPUTER SOFTWARE FOR INTELLIGENT SYSTEMS

In attacking a complex problem people draw on various methods – I call them sources of power – of using their knowledge of the world's regularities to constrain the search for a solution. They may invoke mathematical theorems or less formal rules of thumb; they may break up the problem into more tractable subproblems, or they may reason by analogy to problems that have already been solved. To the extent that computer programs already exhibit intelligence it is because they draw on some of these some sources of power...

Most interesting problems, cannot be solved by relying on formal reasoning alone. The power of logical methods lies in their representation of the world in symbols that can be manipulated in well-understood ways (such as resolution) to produce inferences. That power is also their greatest weakness: many types of knowledge, including the uncertain and incomplete knowledge characteristic of most real-world problems, do not lend themselves to representation through precise logical formalisms. Programs that draw exclusively on logic are capturing only part of the understanding an intelligent person would bring to bear in attempting to solve a difficult problem.

EXPERT SYSTEMS

Today there are dozens of large programs at work on difficult technical problems in fields as diverse as medical diagnosis, the planning of genetic experiments, geologic prospecting and automotive design. The primary source of power in these expert systems is informal reasoning based on extensive knowledge painstakingly culled from human experts. In most of the programs the knowledge is encoded in the form of hundreds of if-then rules of thumb, or heuristics. The rules constrain search by guiding the program's attention toward the most likely solutions. Moreover – and this distinguishes the heuristically guided programs from those relying on more formal methods – expert systems are able to explain all their inferences in terms a human being will accept. The explanation can be provided because decisions are based on rules taught by human experts rather than on the abstract rules of formal logic.

From an article by Douglas Lenat in *Scientific American*, September 1984.

RESEARCH AT CAP GEMINI SOGETI

The CAP GEMINI SOGETI Group views research and innovation as essential components of its activity. Well beyond operations directly carried out by its specialized subsidiary (CAP SOGETI INNOVATION), research forms a part of the day-to-day exercise of the Group's overall strategy.

Cooperating systematically with the world of research, CAP SOGETI INNOVATION conducts applied research in the strategic domains relating to software.

In **software engineering,** for example, CAP SOGETI INNOVATION is taking part in the CONCERTO project, in cooperation with the French National Telecommunications Research Center (CNET), as well as in a number of projects falling under the European ESPRIT program (see inset page 26). CAP SOGETI INNOVATION's work is primarily concentrated on tools for applications development and project management, as well as on basic technologies forming the necessary substrata of future applications: relational databases, parallel programming, ADA language, UNIX operating system, etc. CAP SOGETI INSTRUMENTS integrates the results of this research into its products, notably in MULTIPRO.

Another example: in order to enhance **man-machine communication**, CAP SOGETI INNOVATION is working on natural-language interfaces and multimedia dialogue, and is developing tools such as editors for documents, graphics, sound, etc. Our MULTIGRAPH graphics editor was thus designed in cooperation with research organizations as a means for assisting designers in creating color images on microcomputers for technical and artistic applications, especially in the field of computer-aided instruction. This software has been used in MULTITEL, the Group's videographic product line. Alphageometric terminal display has been implemented to meet American and European standards by CAP SOGETI SYSTEMES in Rennes, France.

Finally, **artificial intelligence** represents a major path in technological development for the Group. This involves not only expert systems (whose highly-diverse applications, initialized by CAP SOGETI INNOVATION, are passed on for development by other Group units), but also the inclusion of knowledge processing techniques into the process of software definition and production, etc.

For example, a research project is being conducted – under the aegis of the French Ministry of Research and Technology – for the generation of multilingual documents on the basis of a global semantic comprehension of the target text, rather than a mechanical translation based on analysis of the text's syntax. Numerous concrete applications are being examined on behalf of a number of the Group companies.

Well beyond these operations, CAP GEMINI SOGETI's policy of technological advancement calls for a continuing reinforcement of the Group's internal links and a highly flexible interplay of activities to facilitate the transfer of skills: coproduction, training, information, exchanges of professionals, tool and product swapping.

In the past, the Group's skills in videography and network design have been relatively concentrated in Paris and Rennes. Projects successfully carried out in Norway and Sweden during 1984 show that these skills have now established firm footholds outside of France.

Likewise, a combined French-American team is now working for the US Navy, at its San Diego facility, to implement an ADA interface between applications written in ADA and a relational database.

Yet another example: experience gained in the context of the Vélizy TELETEL project – on a remote payment application running on videotex processors belonging to the La Redoute and Les Trois Suisses mail-order houses – has begun to proliferate. In 1985, CAP SOGETI LOGICIEL is working with the French General Telecommunications Directorate to develop software for identification of memory cards and their bearers, for prepayment and remote payment operations, and for enciphering transmitted data. In parallel, CAP SOGETI TERTIAIRE is integrating a high-security messaging feature, making use of smart-card technology, into its videographic product line.

Also deserving mention is the implementation, in Milwaukee and in Munich, of **conversion** tools and products, enabling users to carry out DP system changeovers with the least possible trouble and expense.

Finally, the Group's software development assistance methods and tools are constantly being reviewed within each major company, in order to address changing needs and local working customs.

Techniques in the software field are converging and are enriching one another. By organizing synergism between its companies, CAP GEMINI SOGETI is taking advantage of both upstream research results and downstream market demands in order to uphold the technical level meeting its customers' needs.

Finally, it should be noted that the Group spends about 5% of its total revenue annually on research and development, a brief glimpse of which is given on this page.

CAP GEMINI SOGETI

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CAP SOGETI SYSTEMES	Paris	14/20, rue Leriche	75738 PARIS Cedex 15	33 (1) 539 22 25
	Bordeaux	31, rue de l'Ecole Normale	33200 BORDEAUX	33 (56) 02 00 57
	Caen	9, rue du Général-Giraud	14000 CAEN	33 (31) 85 12 69
	Grenoble	6, boulevard Jean Pain	38005 GRENOBLE Cedex	33 (76) 44 82 01
	Lille	276/6, avenue de la Marne	59700 MARCQ-EN-BARŒUL	33 (20) 72 95 09
	Lyons	241, rue Garibaldi Adresse provisoire : Immeuble l'Orient Express 9, 10 place de la Gare de la Part Dieu	69422 LYON Cedex 03 69003 LYON	33 (7) 860 90 03 33 (7) 233 00 56
	Marseilles	90, avenue de Mazargues - B.P. 332	13271 MARSEILLE Cedex 8	33 (91) 76 52 91
	Montpellier	Allée Jules Milhau, Immeuble Le Triangle	34000 MONTPELLIER	33 (67) 92 20 17
	Mulhouse	14, boulevard de l'Europe	68100 MULHOUSE	33 (89) 45 10 60
	Nancy	25/29, rue de Saurupt	54000 NANCY	33 (8) 351 43 96
	Nantes	12, rue Gaëtan Rondeau	44200 NANTES	33 (40) 47 80 23
	Nice	179, boulevard René Cassin	06200 NICE	33 (93) 21 01 41
	Orléans	33/35, avenue de Paris	45000 ORLÉANS	33 (38) 53 86 50
	Reims	Résidence Lundy, 6, rue Andrieux	51100 REIMS	33 (26) 47 38 38
	Rennes	107, avenue de Crimée	35100 RENNES	33 (99) 51 95 99
	Rouen	Pl. de la Verrerie Centre Régional St-Sever Immeuble Le Montmorency	76100 ROUEN	33 (35) 63 50 45
	Toulouse	1, Ch. du Pigeonnier de la Cépière	31100 TOULOUSE	33 (61) 40 55 58
	Valence	Le Métropole 2 10-12, rue du Parc	26000 VALENCE	33 (75) 42 56 19
CAP SOGETI LOGICIEL	Paris	129, rue de l'Université	75007 PARIS	33 (1) 555 91 57
CAP SOGETI INDUSTRIE	Paris	41, rue Ybry	92200 NEUILLY-SUR-SEINE	33 (1) 758 11 10
CAP SOGETI TERTIAIRE	Paris	26, rue de la Pépinière	75008 PARIS	33 (1) 293 22 00
CAP SOGETI EXPLOITATION	Paris	Tour Mattei 207, rue de Bercy	75587 PARIS Cedex 12	33 (1) 346 95 00
CAP SOGETI FORMATION	Paris	92, boulevard du Montparnasse	75682 PARIS Cedex 14	33 (1) 320 13 81
CAP SOGETI SELECTION	Paris	83-85, boulevard Vincent Auriol	75013 PARIS	33 (1) 584 15 40
CAP SOGETI INNOVATION	Paris	129, rue de l'Université	75007 PARIS	33 (1) 555 91 57
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CAP SOGETI INSTRUMENTS	Paris	15, rue de la Vanne	92120 MONTROUGE	33 (1) 656 52 08

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SESA	Paris	30, quai de Dion-Bouton	92806 PUTEAUX	33 (1) 776 41 00

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		Düsseldorf	Grafenberger Allee 30	4000 DÜSSELDORF 1	49 (211) 67 50 05
		Hamburg	Kanalstrasse 44	2000 HAMBURG 76	49 (40) 227 09 54
FINLAND	CAP GEMINI BRA	Helsinki	Annankatu 16B	00120 HELSINKI 12	358 (0) 64 86 48
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		West	Westwaarts 12	2711 AC ZOETERMEER	31 (79) 51 41 61
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		Amsterdam	Burg. Hogguerstraat 787a	1064 AMSTERDAM/West	31 (20) 13 46 46
		Eindhoven	Stationsplein 39	5611 BC EINDHOVEN	31 (40) 43 95 18
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		Skien	Telemarksgt. 8	3700 SKIEN	47 (35) 27 545
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		Karlskoga	Kungsvägen 33	69131 KARLSKOGA	46 (586) 503 80
		Sundsvall	Storgatan 10	85230 SUNDSVALL	46 (60) 12 55 40
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		Basle	Steinenring 23, Postfach	4011 BALE	41 (61) 23 41 41
		Bern	Laenggass-Strasse 7	3012 BERN	41 (31) 23 71 72
		Lausanne	25 rue du Simplon	1006 LAUSANNE	41 (21) 26 31 33
		Zürich (F+D)	Brauerstrasse 60	8004 ZÜRICH	41 (1) 242 28 26
		Zürich (H+1)	Brauerstrasse 60	8004 ZÜRICH	41 (1) 241 06 70
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		London (Inf. syst. branch)	41 High Street	YIEWSLEY, Middx UB7 7QQ	44 (895) 44 85 51
		Manchester	80 Manchester Road	ALTRINCHAM, Cheschire WA 14 4PL	44 (61) 941 19 22

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	Austin	816 Congress Avenue	AUSTIN, TX 78701	1 (512) 495 65 45
	Baltimore	9160 Red Branch Road Standard Court East	COLUMBIA, MD 21045	1 (301) 730 20 02
	Chicago	1400 S. Wolf Road	WHEELING, IL 60090	1 (312) 520 49 40
	Dallas	12200 Stemmons Freeway	DALLAS, TX 75234	1 (214) 247 07 77
	Denver	3131 S. Vaughn Way	AURORA, CO 80014	1 (303) 337 08 42
	Houston	1700 West Loop South	HOUSTON, TX 77027	1 (713) 622 01 05
	Indianapolis	8606 Allisonville Road Castle Creek II	INDIANAPOLIS, IN 46250	1 (317) 842 60 31
	Jacksonville	6821 Southpoint Drive North	JACKSONVILLE, FL 32216	1 (904) 739 27 22
	Los Angeles	22010 S. Wilmington Avenue	CARSON, CA 90745	1 (213) 549 89 70
	Miami	2500 Hollywood Boulevard	HOLLYWOOD, FL 33020	1 (305) 922 27 75
	Milwaukee	Lincoln Center II 2514 South 102nd Street	WEST ALLIS, WI 53227	1 (414) 546 46 44
	Minneapolis	Pentagon Office Park, 4600 W. 77th Street	MINNEAPOLIS, MN 55435	1 (612) 835 99 22
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	New York	1133 Avenue of the Americas	NEW YORK, NY 10036	1 (212) 221 72 70
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	Orlando	2700 Westhall Lane	MAITLAND, FL 32751	1 (305) 660 88 33
	Philadelphia	1429 Walnut Street	PHILADELPHIE, PA 19102	1 (215) 977 89 89
	Portland	700 NE Multnomah	PORTLAND, OR 97232-4114	1 (503) 231 81 14
	St. Louis	16 North Central Avenue	CLAYTON, MO 63105	1 (314) 721 01 23
	San Francisco	1633 Bayshore Highway	BURLINGAME, CA 94010	1 (415) 692 60 50
	Seattle	33430 13th Place South	FEDERAL WAY, WA 98003	1 (206) 838 36 00
	South Carolina	P.O. Box 2975	SPARTANBURG, SC 29304	1 (803) 439 80 76
	Tampa	100 West Kennedy Bld	TAMPA, FL 33602	1 (813) 273 00 59
	Washington DC	8381 Old Courthouse Road	VIENNA, VA 22180	1 (703) 734 15 11
CAP GEMINI SERVICES, INC.	Washington DC	8381 Old Courthouse Road	VIENNA, VA 22180	1 (703) 734 15 11
CAP GEMINI SOFTWARE PRODUCTS, INC.	Dallas	2350 Valley View Lane	DALLAS, TX 75234	1 (214) 247 54 54
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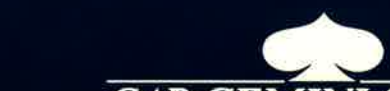
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