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CAP GEMINI SOGETI is a group of some thirty computer service companies providing a range of professional services: consulting in the use of data processing resources, developing software that enables corporations and government agencies to make use of these facilities; designing and implementing complex data processing systems; giving assistance to computer operations; training; and doing management consulting.

CAP GEMINI SOGETI also offers computer-based and data entry services, although these operations account for less than 6 % of gross revenues in 1981.

Active throughout Europe, in the USA and Africa, CAP GEMINI SOGETI is one of the world leaders in computer services.

<b>Summary of CAP GEMINI SOGETI consolidated results (US \$ in millions)</b>	1976	1977	1978	1979	1980
CONSOLIDATED REVENUES	55.3	64.8	81.9	100.7	<b>128.3</b>
Gross CASH FLOW	4.9	6.0	9.5	14.4	<b>18.4</b>
NET INCOME after taxes	2.0	2.4	3.3	4.9	<b>6.4</b>
SHARE CAPITAL AND RESERVES	11.1	12.4	13.1	14.4	<b>18.1</b>
TOTAL OF BALANCE SHEET	42.7	46.7	52.0	65.0	<b>77</b>
TOTAL NUMBER OF EMPLOYEES as at 31 December	2010	2121	2317	2725	<b>3104</b>
NUMBER OF PROFESSIONAL STAFF	1657	1815	2000	2332	<b>2658</b>



***CAP GEMINI SOGETI***

Société Anonyme au capital de 34 millions de francs  
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38005 GRENOBLE

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## LETTER FROM THE EXECUTIVE CHAIRMAN



Once again, the year's results have lived up to our announced forecast: total revenues matching the budget figure at 128 million dollars; and net income slightly exceeding 6.4 million dollars, to be compared with our minimum target – indicated in last year's Annual Report – of 6.2 million dollars.

Also foreseen were two events which placed their stamp on 1980 and which will probably merit a chapter of their own whenever CAP GEMINI SOGETI's history is set down in writing.

The first of these two events is the replacement of CISI (Compagnie Internationale de Services Informatiques) in the capital-stock structure of the holding company which controls the Group. The French Atomic Energy Commission had two goals when its subsidiary acquired a 34 % interest in SoGETI S.A. in 1973. The first was to better integrate CISI – through close cooperation with a company which already ranked as one of France's leading software service firms – into a market (that of "software services") with which it had little familiarity. The second was to fit the company into an environment (the private sector) which cast a somewhat baleful eye on the competition promised by a government-owned firm boasting powerful hardware which only the consumption of a captive customer could make profitable.

Doubtless this target has been reached, but further on things did not turn out as expected:

- on the one hand, the knowhow and determination of the people holding a controlling interest in SOGETI since its beginning enabled them not only to finance the company's growth without turning to their powerful associate for further assistance, but also to carry out consolidations which performed so well that, by 1980, the holding company was controlling revenues twelve times (!) those of seven years earlier.
- on the other hand, the projected cooperation between the two companies (particularly in the area of network services) never panned out, and upon occasion even took the form of outright competition. Moreover, the rapid growth of the market with preferential CISI coverage (supply of DP energy, systems engineering, remote and service-center processing, etc.) led that company to recenter its forces on this sector, in which it invested heavily, notably through the acquisition of new subsidiaries.

In large measure, this explains CISI's decision to divest itself of an interest which had substantially accrued in value, as well as the decision taken by CAP GEMINI SOGETI management to help CISI find takers. The two companies' joint effort was consummated in last September's purchase of this interest by three new shareholders:

- Crédit Lyonnais, for 18.35 % of CAP GEMINI SOGETI's capital stock,
- Société Lyonnaise de Dépôts, for 11.78 %,
- Groupe Drouot, for 3.82 %,

This transfer to three financial groups led commentators to assume that quotation of CAP GEMINI SOGETI shares on the Paris Stock Exchange was a foregone conclusion. Please allow me to take this opportunity to point out that things are really not quite as simple as that. It is true that, when defining our developmental strategy, we have always taken care to leave the door open to at least two possibilities: association with an industrial group (which would buy up the 34 % in question), or going public. But it is equally true that no formal decision has yet been taken in this regard by either CAP GEMINI SOGETI's general management or a general meeting of its shareholders, which holds absolute sway in such matters. More: no agreement whatsoever in this vein has been arrived at with any of the three new shareholders. So it is erroneous to represent a stock-exchange entry as inexorable, or an association with another industrial partner as no longer possible, or maintenance of the new status quo over the next years - it being our affair to make these new shareholders as happy as their predecessor - as inconceivable.

The second important event of the past twelve months is, of course, CAP GEMINI SOGETI's recent acquisition of one of its American challengers, DASD: pronounce it "daz-dee". In my letter in last year's Annual Report, I had announced that we were determined to "expand our position in the USA". It should be recalled that, a little over two years ago, CAP GEMINI SOGETI installed a US subsidiary whose activities were to remain centered on the Washington, D.C. market, and which today numbers some forty high-level consultants working on behalf of federal government agencies. In terms of a major acquisition, however, we were aiming for a partnership with American colleagues desirous of joining with us in becoming one of the four or five largest software service firms operating on the US market, and desirous of establishing a cross-fertilization between users on both continents - a cross-fertilization whose usefulness never ceases to be rediscovered on both sides of the Atlantic. Next, we were looking for a sales organization and a technical structure capable of adapting, marketing, installing and developing original products designed and implemented by CAP GEMINI SOGETI, products which could not successfully penetrate the American market without the action of an efficient, credible sales network. Finally, we were seeking a solid, profitable and reputable company whose internal organization - based on the concept of the branch structure and decentralization of responsibilities - resembled our own as closely as possible.

DASD lived up to all of these conditions, and it was not hard to finalize an agreement with its shareholders and managers. Founded in 1974 and specializing in software services, DASD is a company of 500 employees working out of 20 branches and ten satellite offices. Its projected 1980/81 revenues (financial year ending 30 April 1981) are in the neighborhood of 22 million dollars, with net after-tax earnings of 4 %, and 1981/82

revenues of 27 million dollars are anticipated. The company enjoys an excellent reputation, backed up by a prestigious list of references and by the results of the yearly DATAMATION survey (naming DASD N° 1 in the "contract programming" category in 1979, and N° 2 - behind IBM - in 1980). DASD has equipped itself with a range of software tools, notably enabling it to obtain remarkable results in the conversion field.

In short, DASD had a lot to offer, and it has just taken its place within the CAP GEMINI SOGETI Group. If the company is not yet included in the accounts presented in this 1980 Annual Report (the agreement between the various parties was not definitively concluded until last January 22), it will, of course, find its place in these pages next year. With DASD, our new goal is to achieve total revenues in the vicinity of 180 million dollars, and to keep our net earnings above the 5 % level (even though DASD is still far from that figure). In view of the fact that 94 % of these revenues will be derived from software services - as opposed to the computer-based services which make up the bulk of sales by the major French and European DP service firms (which in turn are obstinately and incorrectly lumped together with companies which neither buy, lease, use nor resell the least scrap of hardware) - it is possible that, with a sales figure of nearly 180 million dollars, CAP GEMINI SOGETI will be able to claim its place among the world's four or five largest companies in its category.

Some of us would not be disappointed if CAP GEMINI SOGETI were to become the largest, period. I wouldn't be unhappy if it were to become the largest... while maintaining its independence. But I would prefer that CAP GEMINI SOGETI hold on to the independence that it has managed to preserve, with jealousy and courage, up to the present day, rather than see it mount the gold-medal step of the victors' podium under other circumstances. May ambition remain within the Group's reach, may it enjoy the enduring favor of economic circumstances, may it continue to bank on the devotion of its people, and may the ethical values forming the nucleus of its growth always retain their character of hallowed duties in the eyes of all, newcomers as well as seasoned veterans.

GRENOBLE, 5 April 1981

Serge KAMPF



# DATA PROCESSING: A MAJOR INDUSTRY

CAP GEMINI SOGETI's activities fall within the computer service field, which represents nearly 30 % of the data processing industry. With a workforce of over one million, 1979 sales of 75 billion dollars and an annual growth rate of 15 %, the world DP industry has outstripped the steel industry in size, and is rapidly catching up with the chemicals and food industries.

Such rapid growth reflects, in economic terms, the increasingly-numerous ramifications of the applications of data processing, and the satisfaction which these applications yield. In parallel with the expanding use of computer processing of conventional management applications (accounting, payroll, inventory management, etc.), new, increasingly varied and inexpensive tools are making their appearance. Whence a growing number of new applications, limited only by the human imagination and — above all — the capability to implement them: that is, the capability for implementation of the necessary **software**.

In point of fact, the new applications, the new systems, the new techniques and their inevitable interdependence all necessitate the existence of new software to make them work.

At the same time, it is still necessary to hold on to the millions of programs currently being used in business and government, but the burden of this maintenance task threatens to exceed the capacity of user DP departments. This situation has resulted in an extremely rapid growth of

the service sector within the data processing industry. Of the many roles played by this sector, the following two should be emphasized:

- contribution of a professional software implementation and maintenance capability,
- creation of production tools and methodological aids to management of these tasks.

The goal of the following eighteen pages is to present an analysis of the data processing industry, beginning with a description of the DP tool — essentially consisting of **hardware** and **software** — and concluding with a presentation of the DP services market and the contributions made by service firms such as CAP GEMINI SOGETI.

This section has the following contents:

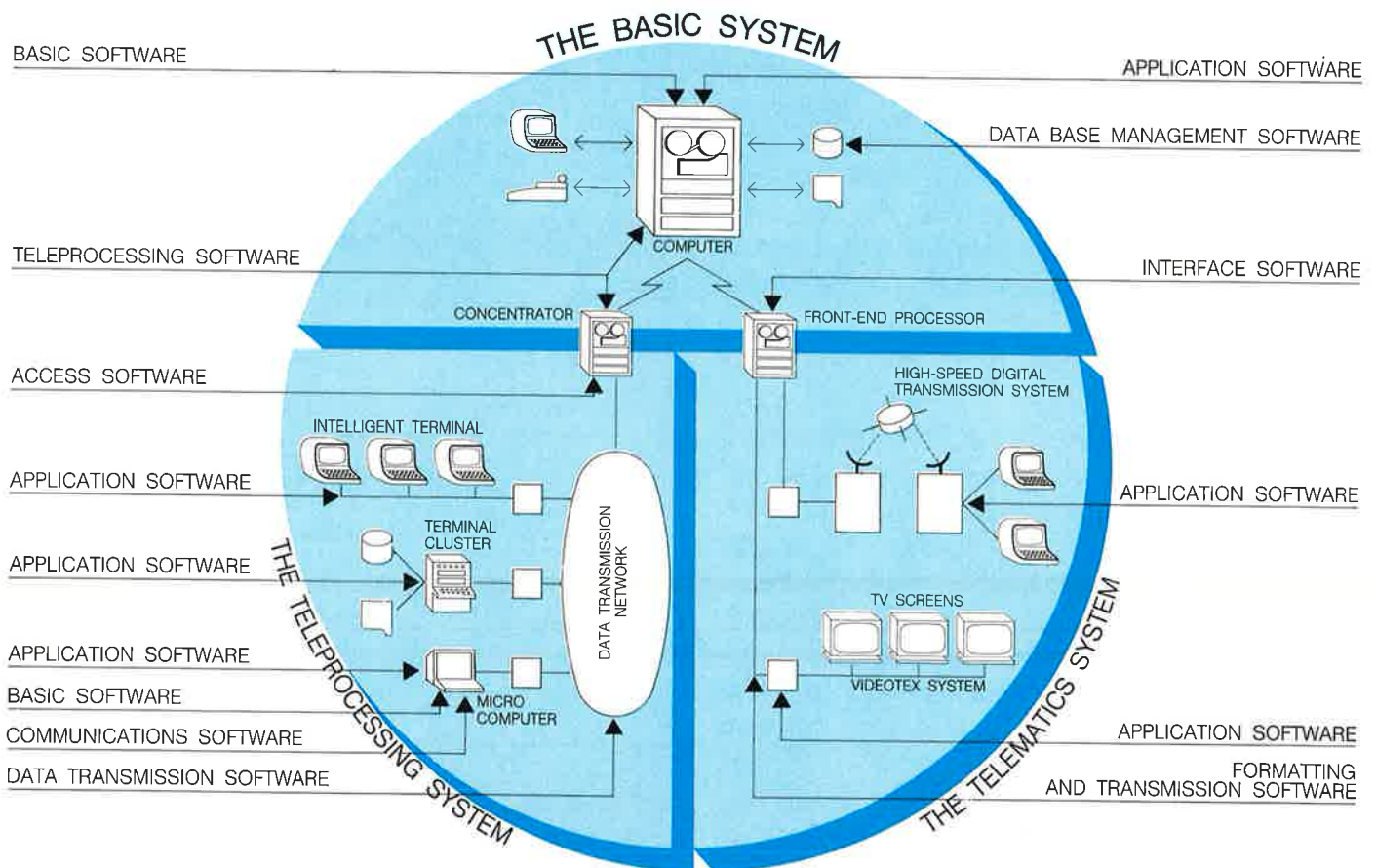
the DP tool	pages 6 to 9
the five categories of DP users: government, business and industry, the computer manu- facturers, the professions and the consumer.	pages 10 to 15
the DP industry	pages 16 and 17
services offered by CAP GEMINI SOGETI	pages 18 and 19
the DP services market	pages 20 and 21
service companies: their contribution	pages 22 and 23

**Data processing is the science of the rational processing — notably by means of automatic resources — of information viewed as the medium of human knowledge and communication in the technical, economic and social realms.**

# THE DATA PROCESSING TOOL

Neither the dizzying speed of technological progress nor the ceaseless change of resulting DP systems have altered this basic truth : the DP tool is organized about hardware (the computer) and software.

The latter, virtually devoid of material substance, is the instrument which allows corporate and government users to employ their hardware profitably and harmoniously.



The DP tool is essentially a processing unit (or central unit) acting to connect the user to the system, and software enabling the tool to handle the problems for which it has been installed.

In relation to this basic DP system, **teleprocessing** offers the possibility of remote inquiry and processing. **Telematics**, in turn, is to progressively offer home services for individual users and new services for business and industry.

As the diagram above indicates, each stage in this development requires the implementation of new software, diversified and adapted to each projected function, to each type of hardware and to each application.

The diagram opposite illustrates the structures of three typical DP systems, fully representative of three major developmental stages :

•**The '60s**, marked by the birth of what we still call "conventional" DP and by the establishment of many computer centers or DP departments, organizations built up by users around their hardware-software tool in order to serve their internal agencies. The share of software in DP system cost at the time may be estimated at about 30 %, and it is worth noting that the first computer service firms made their appearance during the '60s, already meeting a user requirement for assistance in implementation of their application software.

•**The '70s**, the "teleprocessing" stage, characterized by remote access to DP resources. Here we witness

the emergence of a whole range of terminals — "dumb" at first, "smart" with passing time — offering diversified access to files and computing tools. At the same time, the telecommunications carriers in the majority of industrialized nations design dedicated data transmission networks, themselves under computer control.

Systems become progressively more complex. Their use by non-DP personnel raises unforeseen technical problems. New hardware (terminals, concentrators, etc.) obviously cannot function without its own "basic" software. With an increased relative importance of software functions coming on top of falling prices for electronic components, it is not surprising that the software share of system value should rise to 50 % during the 70s, or that the DP service industry should show higher growth rates than those of the hardware field.

•**The '80s**, its unfolding perspectives promising for both users and service firms : advances in electronics will soon permit the production of easy-to-use terminals for the price of a home TV set and the transmission of information into the home or place of work.

Telecommunications networks, increasingly routed via satellite, are also making massive use of data processing. And, thanks to all of these advances, increasingly-sophisticated tools are becoming available to users of "basic DP systems", enabling them to design and implement profitable new applications.

The share of software is now reaching 60 to 70 % of the cost of current information processing systems. No matter where you look, software is an indispensable ingredient : it helps the engineer or accountant seek needed information, it controls the transmission of data in the most complex telecommunications networks,

it coordinates the retrieval of data from computer memories, it ensures file security, it initiates reliability and safety tests, and so on. This is why corporations and government agencies are increasingly willing to entrust the engineering functions for their DP projects to computer service firms experienced in the provision of "software services" — and particularly in software development.

**The appearance of data processing software and the spread of its concepts and methods to all economic and social activities are a response to their growing complexity.**

### MINI-GLOSSARY OF TERMS USED BY DP PROFESSIONALS

**Analysis :** methodical investigation of a problem, with an aim towards its processing by means of DP resources. This investigation primarily involves a breakdown of the problem into basic, sequenceable logical stages, a description of all the data to be processed or generated, and a definition of all circuits capable of conveying this information.

**Application :** All data processing programs and results related to an actual problem solved (or to be solved) by a DP system. The problems most frequently handled by data processing are management-related (hence the many applications existing for general accounting, inventory control, etc.), but numerous technical, scientific and industrial problems are also dealt with by DP applications.

**Computer service firm :** Company providing DP services, whether in the form of software or computer-based services (see definitions elsewhere). It should

be noted that this term generally designates firms which are — or should be — independent in their choices and in their recommendations, and therefore free of influence of hardware manufacturers.

**Data bank :** Set of related files consolidating data in a specific area of knowledge and organized for availability to user inquiry. Note that the concept of the data bank differs substantially from that of the database.

**Database :** Set of data organized for use by programs related to distinct applications, and in such a way as to facilitate the independent evolution of data and programs.

**Data processing :** The execution of a systematic sequence of operations performed upon data. At once a science, a technique and an industry. It has led to the development of a powerful industry furnishing the products and services required for the implementation of DP techniques.

**Software services :** Of the two major categories of DP services, that which essentially embraces the activities of diagnostics and consulting concerning the choice and use of DP tools, software implementation and maintenance, large project design and management, assistance to computer operation and computer center management, technical and commercial consulting, DP training, etc.

**Computer-based services :** The other category of DP service, encompassing all services provided involving the use of DP systems, whether in the form of local or remote service bureau processing, timesharing or data entry.

**Office automation :** An aspect of data processing defined as the automation of the clerical environment. Under these terms, office automation includes word processing, telecommunications, organization and modeling of administrative procedures, and automated document filing and archiving.

**Program :** Sequence of instructions which, when executed by a computer, provide the desired processing output.

**Software :** All programs, procedures and rules related to the operation of an information processing ensemble. The diagram opposite illustrates the various types of software required for the functioning of a DP system.

**Telematics :** Term reflecting the increasing dovetailing of telecommunications and DP, both in the tangible (hardware) and intangible (software and services) forms. This neologism — sometimes alternating with descriptive terms such as "electronic information systems" — qualifies an area of DP which in particular includes data transmission and new services such as home information systems.

*The basic logic structure of the computer is the switch, which has two stable states : open or closed, 0 or 1... which brings us into the field of binary logic.*

**Software** is the collection of very strict rules which must be observed in order to make the computer perform one or more operations, i.e., to control the opening and closing — in a specified order — of the myriad basic switches contained within the machine. The complete collection of commands (or instructions), defined on the basis of an analysis of the problem to be handled, constitutes a program.

Advances in technology have solved all notable problems of circuit dimensions, reliability and cost.

Obviously, the optimal use of all the computer's potential resources stems from software design.

## HARDWARE AND SOFTWARE

Information is worthless if it can't be read. Hardware is worthless if it lacks the software enabling it to enter and process information, and output the results.

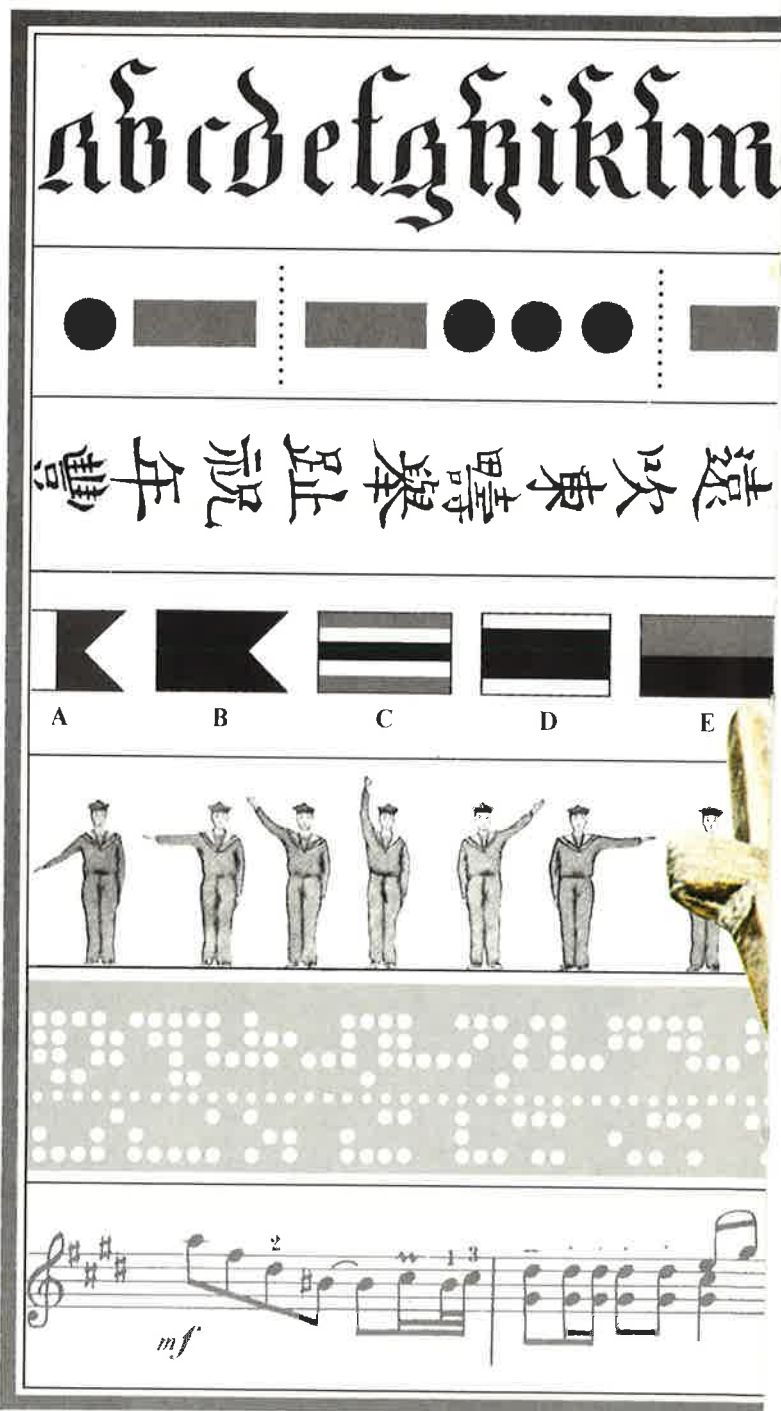
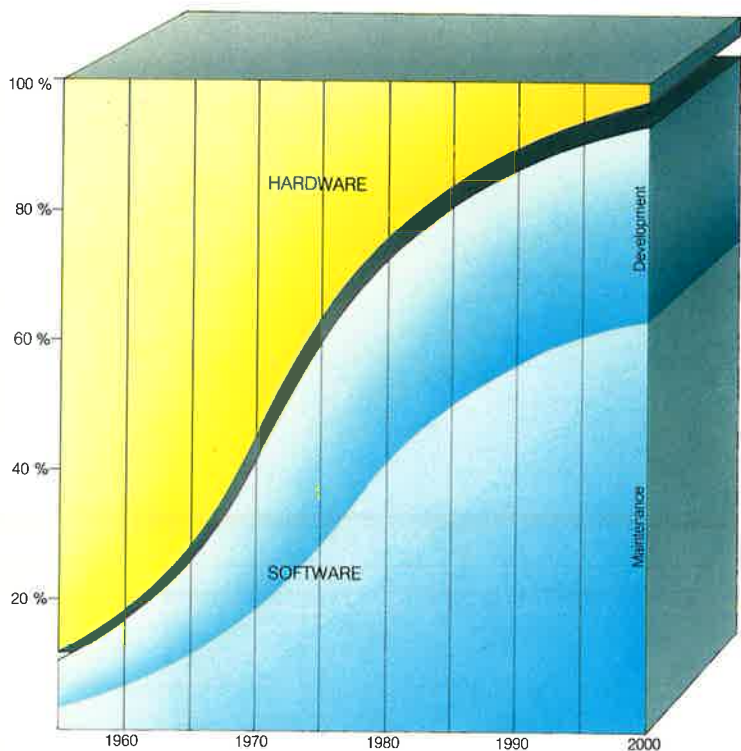
Like electricity, software is invisible; it is manifested only in its effects, and demonstrates its usefulness by making machines run.

Just as energy is accounting for an increasingly large slice of the cost of many goods and services, so software is taking up an ever-increasing share of the total cost of DP systems.

The diagram below, taken from a presentation by the President of Nippon Electric Co., illustrates the curve of the hardware/software cost breakdown within the total cost of a DP system.

In contrast to energy, however, software is man-made. By the engineers of computer service firms, for example. Our diagram is therefore illustrative of the degree to which the software industry is — and will remain — a job-creating activity.

EVOLUTION OF THE COST RATIO OF SOFTWARE IN A DP SYSTEM



Information is worthless if it can't be read

一室同粒我烝民遺澤



J



**A** certain Dr. Hollerith was born in Buffalo in 1860. One day, he found himself confronted by a simple problem - census the inhabitants of his district - for which he found a simple solution. He had three ideas.

The first was to establish a file card for each inhabitant, then enter each item of information by means of a punched hole at a specific spot on the card. The cards thus began to "talk". Their "language" was different from that of ordinary speech. They contained clear, indisputable and indelible information.

Dr. Hollerith's second idea was to have the cards read by a machine. He invented two reading processes: one mechanical, the other electrical.



His third idea was based on a principle devised by Blaise Pascal for his first calculating machine (1652), consisting in the addition of a counting system: the automatic reading of a given item of information causing one of the ten teeth of a toothed wheel to advance a step.

These were the inventions patented by Dr. Hollerith; their first practical large-scale application was the Chicago census of 1890.

Technically ready for use as early as 1885, the punched-card machine was not to find widespread use until 40 years later.

A revolution occurs in 1951: the first electronic information processing machine, the first **computer**. The electron replaces the totalizer's toothed wheel. The first computer is a huge, slow machine containing massive quantities of relays and tubes... a giant calculator.

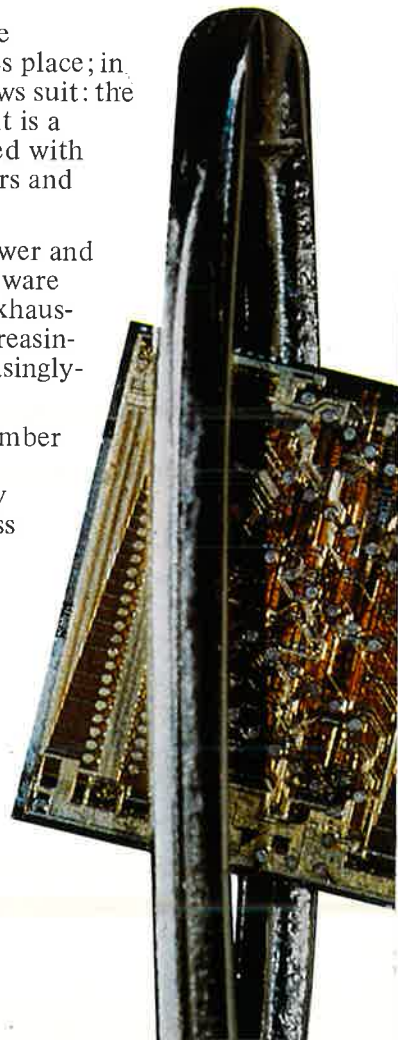
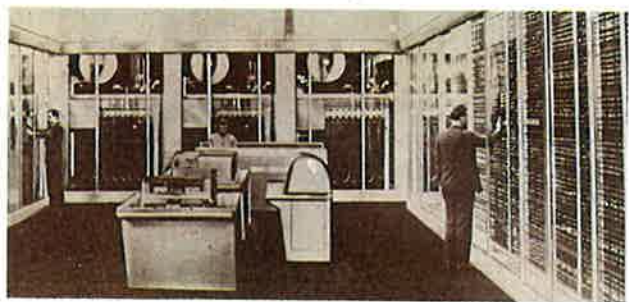
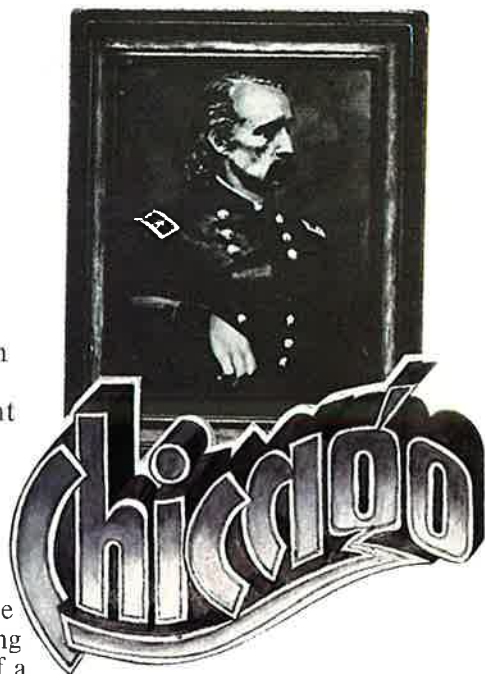
In 1959, however, the «transistor revolution» takes place; in 1964, miniaturization follows suit: the computer's basic component is a printed circuit board studded with diodes, transistors, capacitors and resistors.



Thus expanded, both computing power and memory capacity of hardware provide software with resources which become virtually inexhaustible: with means for the expression of increasingly-numerous applications; and with increasingly-rapid, simultaneous communications.

Today, the users of data processing are numerous and diverse. They number tens of millions worldwide, and hundreds of thousands in France. These figures should grow substantially during the '80s, thanks to the new potential offered by hardware and software, which is going to bring data processing into small business and into the average citizen's living room.

**DP USERS MAY BE DIVIDED INTO FIVE MAJOR CATEGORIES: GOVERNMENT, BUSINESS AND INDUSTRY, COMPUTER MANUFACTURERS, THE PROFESSIONS AND THE CONSUMER.**



# GOVERNMENT

It comes as no surprise that government departments and agencies make extensive use of data processing. In point of fact, the most voluminous and complex problems of calculation and management arise precisely at the central administrative level. The following brief survey offers a striking demonstration of this fact :

- **large-file and large-account management**

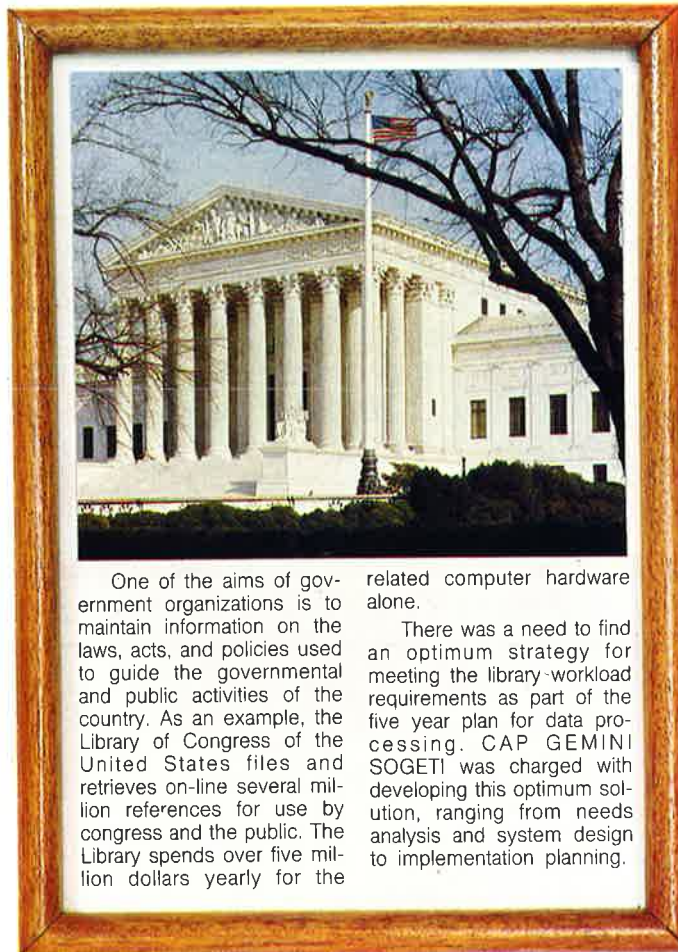
Some agencies have millions — or even scores of millions — of "customers", each having files to be managed. Examples include taxpayers, telephone subscribers, voters (and, in some countries, even TV set owners).

- **archiving and updating of public documents**

The increasing complexity of modern-day life makes the use of data processing necessary for the consultation, updating and transcription of public documents. This is the case, for example, with property rolls, legal texts, public accounts, local and regional rules and ordinances, city planning regulations.

- **management of technical infrastructures**

The efficiency and security of major transport and communications systems is largely owed to data processing.



One of the aims of government organizations is to maintain information on the laws, acts, and policies used to guide the governmental and public activities of the country. As an example, the Library of Congress of the United States files and retrieves on-line several million references for use by congress and the public. The Library spends over five million dollars yearly for the related computer hardware alone.

There was a need to find an optimum strategy for meeting the library-workload requirements as part of the five year plan for data processing. CAP GEMINI SOGETI was charged with developing this optimum solution, ranging from needs analysis and system design to implementation planning.

sing. Everyone is familiar with the role played by the computer in air, rail and highway traffic control. What is less known is that nationwide and local telephone networks will soon be totally managed by DP facilities.

- **large-scale scientific calculations**

A nation's competitiveness and independence are substantially dependent on the quality of its science and technology. Today, highly-specialized software performs the ballistic calculations required by space satellites and launch vehicles, manages nuclear power station operation and simulates military situations and their consequences for the defense establishment.

Finally, the speed with which government statistical reports are computed is possible only thanks to data processing which, only days after the close of a period, makes it possible to issue consumer price indices, foreign trade balances, monetary trend forecasts, industrial output indices, etc.

In the western nations, four government departments or ministries — typically designated as economy and finance, health, telecommunications and defense — share nearly three-quarters of all government DP resources for the management of major national applications : tax computation and collection, publishing of national statistics, telephone system and defense resources management, etc.

Current trends of government DP use are marked by the development of large systems designed to enhance public service, particularly by providing fuller, speedier information to the populace.

Implementation of these large systems has technical, commercial and industrial effects on the entire DP profession :

- system implementation implies the participation of the most highly-qualified specialists in the techniques involved, leading to subcontracting of entire projects to computer service firms in such disparate fields as customs, internal revenue and telephone directory assistance.

- the management of large DP sites necessitates the systematic application of a methodology designed to clearly identify goals, and the successive stages required for their achievement.

- pilot projects have a stimulating effect on certain sectors, thereby participating in market development. Examples in France include fiber optics and small keyboard display terminals, whose rapid takeoff is due to a government decision to implement relevant pilot projects.

It is also true, however, that the advent of new ideas and new technologies on the scale of a local or national administrative unit can have repercussions on the daily life of the average citizen. And the choices involved in these new developments fall squarely on the shoulders of government decision makers.



# BUSINESS AND INDUSTRY

Accounting for 65 % of the world's expenditures on data processing, private business and industry is obviously the foremost user of computers and the leading customer of computer service firms.

The applications of data processing in business can be subdivided into three main categories :

- management applications : payroll and personnel management, financial and accounting management, sales management, etc.
- production support applications : computer-aided design, process control, machine-tool control.
- decision-making aids : statistics, situation reports, modelling, strategic planning.

The financial sectors obviously show the highest degree of penetration, while those sectors involving a low density of information handling — such as agriculture — are the smallest users of DP resources.

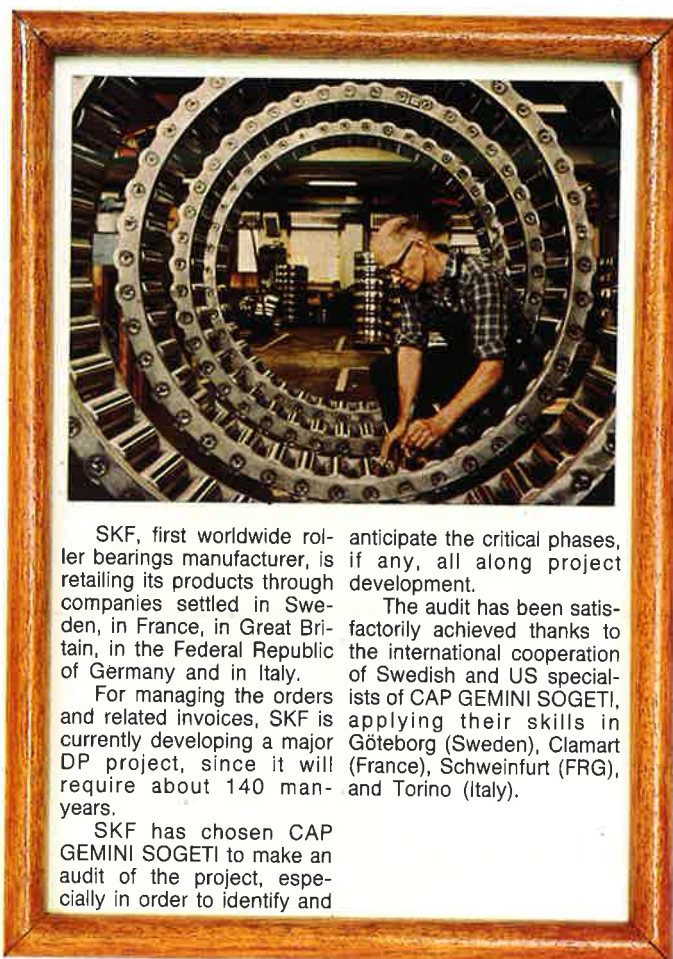
The major trends of DP use by business and industry have already been sketched out over the past few years :

## • democratization of the DP tool

With hardware costs steadily falling, new circles of increasingly-modest business concerns are making their appearance as potential users.

The problem facing them is the confusing choice of possibilities offered :

use of the services of outside computer centers, selection of hardware from the wide range of available types, etc.



SKF, first worldwide roller bearings manufacturer, is retailing its products through companies settled in Sweden, in France, in Great Britain, in the Federal Republic of Germany and in Italy.

For managing the orders and related invoices, SKF is currently developing a major DP project, since it will require about 140 man-years.

SKF has chosen CAP GEMINI SOGETI to make an audit of the project, especially in order to identify and

anticipate the critical phases, if any, all along project development.

The audit has been satisfactorily achieved thanks to the international cooperation of Swedish and US specialists of CAP GEMINI SOGETI, applying their skills in Göteborg (Sweden), Clamart (France), Schweinfurt (FRG), and Torino (Italy).

This is why they are turning with increasing frequency to computer service firms which — given their familiarity with hardware, software and application types — can define and implement inexpensive solutions for these companies medium-term growth requirements.

## • development of the area of DP application

The emergence of new equipment (notably microprocessors) under economically viable conditions, allied with the appearance of new DP techniques (such as office automation and computer-aided design) and the presence of a telecommunications infrastructure, has opened the way to a very extensive field of new busi-

ness applications. Users will necessarily have to turn to computer service firms for a solution to the problems of software availability.

## • provision of DP resources to users

Long the province of the DP professional, the computer is now operated by users themselves, with resulting incentive to personnel thanks to the enrichment of administrative tasks and an increased delegation of authority. All of this requires the parallel development of complex software to facilitate man-machine dialogue (control languages, syntax and semantic modules), the ultimate stage of which will be dialogue in

natural language — a target currently being worked on by the largest computer service firms.

The following two examples illustrate the evolution of DP systems towards a sophistication and complexity growing hand in hand with their ease of use.

### • banks

After having mastered the use of the DP tool for customer account management, and having created large networks (such as SWIFT in Europe and CHIPS in the USA) to speed up interbank transfers, banks are now profiting from new technological potential, particularly the microprocessor-based "smart" cash/credit card, to install electronic payment systems. These will enable private and corporate customers to perform transactions with their banks, with present payment facilities being replaced by automatic teller, home and point-of-sale terminals.

### • industrial corporations

Automation of production constitutes the industrial sector's highest priority at the beginning of the '80s, as it is a veritable imperative for survival in face of the competition offered by cheap-labor countries.

Data processing thus models the "plant of the future" by performing a number of functions such as remote data monitoring, assistance to installation, operation and production inspection. Computer-aided design, allied with the use of scientific and technical data banks, is likewise becoming an indispensable tool for industrial competitiveness.

**Business use of data processing : 10 % in 1979, over 50 % in 1985**

« Week for Information and Society », Paris 1979

# THE COMPUTER MANUFACTURERS

From the standpoint of data processing, computer manufacturing is a very special undertaking insofar as its products consist in part of software which is literally built into the hardware that it controls.

Although software and hardware prices have been "unbundled", in principle, since IBM's famous decision in 1969, their relative proportions do not reflect the reality of the cost structure. In point of fact, the development and maintenance of basic software (see insert opposite) are confronting the computer manufacturers with a rapidly-increasing share of the cost of DP systems. On top of this, the successful announcement of new computer series, normally intended to be sold and installed in quantity on the international market, is highly conditioned by the quality of their basic software. And the criteria of customer choice have shifted from the hardware's intrinsic characteristics — such as memory cycle time — to its promise as a tool capable of providing solutions to the user's problems.

The term "basic software" covers :

- manufacture of the components of basic software proper : assemblers, compilers, utility programs, teleprocessing monitors, database management systems, operating systems, etc.,
- software products (or "packages"), themselves divided into two categories : application packages (general-purpose payroll programs, cash management programs, etc.) and systems packages (general text processing programs, sort programs, etc.) ;
- manufacture of special systems requiring the use of basic software techniques : networks, reservation systems, real-time systems (industry or management-oriented), weapons and command systems, etc.

It is quite normal, then, for manufacturers to find that subcontracting basic software production to software service firms is a means of sharing cost and deadline risks... and of cutting down on management headaches. On the condition, naturally, that the service firms selected offer every necessary guarantee of size, experience and technical know-how (often in the form of specialists that the manufacturers themselves lack).

Service companies called upon to develop basic software for manufacturers must meet three target priorities :

- performance, in order to ensure the highest possible level of commercial competitiveness for their products and the highest quality for their services ;

- reliability and ease of maintenance, so that risk of mistake or error is reduced to a negligible level and product updates resulting from maintenance operations can be speedily and inexpensively passed on to all users ;
- longevity, so that the investment in product development can be amortized over the longest possible product lifetime.

CAP GEMINI SOGETI has acquired unique experience in the basic software field, primarily because of the following two factors :

- the first is bound up with the existence of dynamic domestic DP industries in a number of countries where CAP GEMINI SOGETI has a strong presence (CII/HB and SEMS in France, SIEMENS and NIXDORF in Germany, PHILIPS in Holland and ICL in Great Britain), and the Group's leading role in each of these countries in the development of software for the product ranges marketed by these manufacturers ;

- the second factor relates to CAP GEMINI SOGETI's decision, at its very founding in 1968, to tackle the software product market, by developing and distributing its own software packages.



CAP GEMINI SOGETI has participated in two significant phases of CII/HB's project to market its TTS 7800 financial terminal :

- the first involved implementation of the device's basic software : a minicomputer-based file management system providing direct access and sequential indexing.
- the second dealt with specification writing, followed by implementation of

an application software designed to demonstrate the terminal's potential in the banking field. It permits all usual real-time banking applications such as deposits and check cashing, and offline procedures such as statement and statistics printout. This software takes all usual banking peripherals — such as check readers, sorters, passbook readers, etc. — into account.

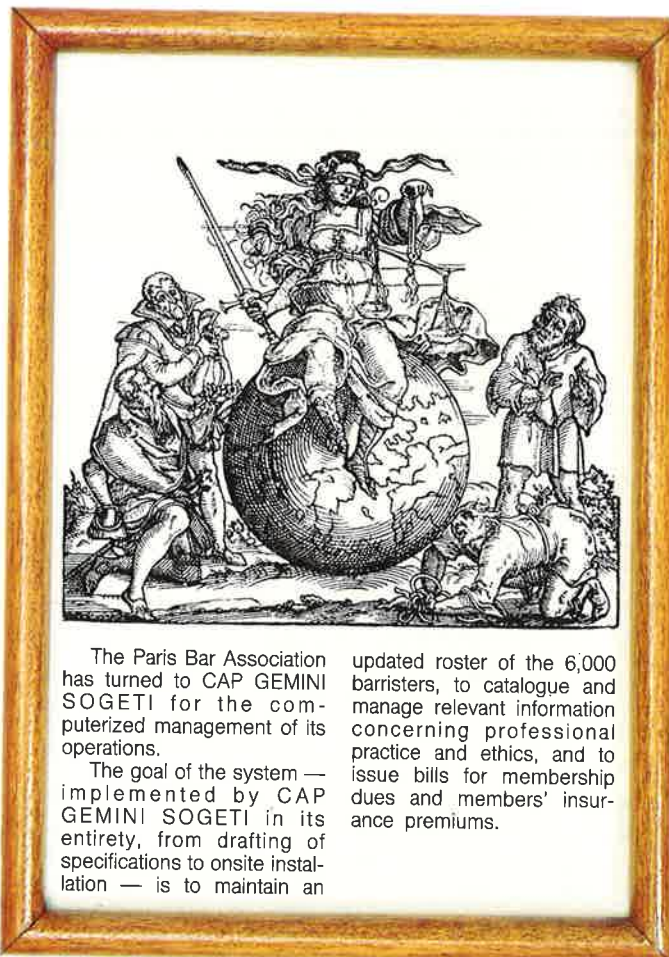
# THE PROFESSIONS

While the manufacturer and the farmer work with tangible materials, members of the professions deal with information which they research or create, select, transmit and so on. It is only natural, then, that professional people such as insurance agents, notaries or surveyors should seek to make use of the "science of information handling" originally — and still conventionally — termed "data processing".

Generally speaking, the types of applications which the professions can handle using data processing resources may be placed under three categories :

- administrative and accounting management, still a painstaking, repetitive accessory task which takes up too much of the busy professional's time. The many nearly-identical documents, the range of forms and statements to be filled out gnaw away at useful time which could be devoted to the "real" exercise of a profession, such as consultation, diagnosis, sales or simply... thinking things over.

- retrieval and consultation of data — whether legal, medical, topographic or other — can be performed with infinitely greater speed and accuracy when this information, stored in computer memory, is made easily accessible by the availability of documentary software designed for use by non-programmers.



The Paris Bar Association has turned to CAP GEMINI SOGETI for the computerized management of its operations.

The goal of the system — implemented by CAP GEMINI SOGETI in its entirety, from drafting of specifications to onsite installation — is to maintain an

updated roster of the 6,000 barristers, to catalogue and manage relevant information concerning professional practice and ethics, and to issue bills for membership dues and members' insurance premiums.

**A. Beckmann is a real-estate service firm which performs trusteeship duties for 7,000 condominium units and manages 500 rental units.**

**The company requested CAP GEMINI SOGETI to automate its accounting operations. Thanks to the system installed, operation entry and verification and account inquiries are now instantaneously performed from terminals.**

**The time required for allocation and collection of charges has been reduced, resulting in improved building cash flow and working conditions for personnel.**

- technical applications, characterized by their extreme variety. We could offer numerous examples — such as structural calculations for architects or topographic computations for surveyors — but the following two points deserve special mention:

— in certain professions, the DP tool can act as a veritable aid to production. This is particularly the case when the "end product" takes the form of complex or highly repetitive statements: insurance policies, deeds and wills, bookkeeping statements, etc.

— in association with other technologies, data processing can bring about a great forward leap in the particular science exercised by a profession. For example, tomographic scanners, controlled by extraordinarily complex software, have transformed brain surgery techniques within a very brief span of time.

Although the professions have been using data processing for a number of years, it must be acknowledged that the penetration of this technique is still quite limited, and this for purely economic reasons. In the future, however, it is highly probable that a great number of professional firms will be in a position to make use of these facilities. In point of fact, the cost of hardware has dropped enough to allow the independent professional to manage the outlay required for installation and operation of a DP system.

It is estimated that, in France, at least 100,000 professionals (physicians, Real Estate professionals, pharmacists, architects, notaries, accountants, lawyers, insurance agents, surveyors) have sufficient resources to consider the use of data processing facilities in the exercise of their profession.

**In 1985, 15 % of the active population will be making regular use of data processing in its work, in contrast to 3 % in 1979.**

« Week for Information and Society », Paris 1979.

# THE CONSUMER

Public parks, environmental pollution, TV programs, lines at supermarket checkout stands, pay phones, nursery schools, mathematical exercises and a thousand and one other things, all go to make up our everyday life and determine its quality.

Whether consciously or not, the consuming public's contact with the computer takes place primarily through the many DP applications affecting its daily life. Among the many applications to which CAP GEMINI SOGETI has made a direct contribution, we might point out:

- In France, a computerized system assists in the systematic, unceasing surveillance of premature infants in intensive care incubators.
- In Germany, radio stations can access one another's record libraries via a computerized network.
- In Holland, automobiles can be instantly identified by means of a databank whose 2-billion-character memory contains descriptions of all vehicles in circulation.



The French General Telecommunications Directorate has just launched a pilot project for an optical fiber network in Biarritz. In an initial phase, the network will support TV (16 channels), stereo music (6 channels) and picturephone\* services.

In a later stage, the optical fiber network may be used for other services such as electronic mail, videotex and the electronic telephone directory.

CAP GEMINI SOGETI is participating in system specification and implementation of extensive, complex system software which will enable the ordinary user to enjoy uncomplicated, reliable new services.

\* Picturephone is a combination of telephone and TV facilities enabling callers to see one another during a phone conversation.

In contrast, a true *consumer information system*, providing every individual with household computer facilities, has barely seen the light of day, but it is already possible to categorize computer applications under three main headings:

- Education in computer use (and, in a subsequent phase, learning in other fields such as mathematics or foreign languages): in the USA, many children already have home terminals connected to their school's central processor.

- Access to information of every kind (financial, travel, sports, weather, medications) and performance of transactions (banking, seat reservations, shopping) from a TV-type terminal;

- Household applications: home-control functions (heating, door surveillance, etc.), family budgeting, electronic mail, computer games and so on. It should be noted that 500,000 homes in the Western world (80 % of them in the USA) are already equipped with microcomputers.

Some of these applications have already found practical uses, while others are undergoing experimentation on a nationwide scale (e.g., the videotex project in Vélizy, France); most, however, are still on the drawing-board.

The widespread development of consumer applications promises a huge market for the DP industry, particularly:

- for hardware manufacturers, who have begun to develop terminals which are much less expensive than current models;
- for information providers, who will have to set up large networks and interconnected databases;
- for the computer service industry, which will have to provide these complex systems with software designed for users lacking DP experience.

In 1978 the Frederik BULL Foundation asked a group of 125 DP experts which were, in their opinion, the most probable dates of computerization for some items.

A selection of these consumer-related items follows:

QUESTIONS	1980	1985	1990	1995	2000	after 2000
• Access to DP networks by individuals through the telephone.	16	40	38	18	7	2
• Connection of a distribution center to TV-sets.	7	33	34	22	17	10
• Collecting citizens' opinions directly from their homes.	1	3	11	17	24	60

# THE DATA PROCESSING INDUSTRY

It is not by chance that both hardware manufacturers and computer service companies are customarily lumped together under the term "data processing industry". In fact, all of these purveyors of goods and services operate on a single market formed by all of the users of data processing. This huge potential market is quite easily quantifiable, as DP spending is a systematically-calculated economic indicator in the industrialized nations.

Worldwide DP spending totaled 120 billion dollars — over half of this sum in the United States alone — in 1979. For the European community (as shown in the diagram opposite), this spending amounted to 32 billion dollars during the same year. This market has a high potential growth rate, as indicated by the figures for Europe : \$13 billion in 1973, \$32 billion in 1979 and a projected \$85 billion in 1985. Spending on data processing represents a growing share of the GNP of most countries. In France, for example, it increased from 1.5 % of GNP in 1973 to 2.5 % in 1975, and is anticipated to reach 3.5 % in 1985.

It is convenient to analyze the DP budget of a private concern or public agency from the standpoint of the origin of expenditures, which may be internal or external :

- internal expenditures include DP personnel costs (operators, analysts, secretaries, managers, etc.) and certain facilities supplied by the organization itself, such as office space.

- external expenditures go primarily for goods and services supplied by the DP industry : computers and basic software, peripheral equipment, communications equipment and DP services. Certain public services (communications common carriers, in particular) and related industries (e.g., suppliers of paper stock, magnetic tapes and disks, etc.) also account for outside spending.

- the diagram opposite indicates that about 50 % of user DP spending goes to the data processing industry. The long-term evolution of this share is a matter of argument among the

experts, but it would appear that, in Europe, it should remain stable or decrease slightly, at least over the next five years.

In contrast, long-term trends for the allocation of external expenditures are clearer : steady shrinkage of the share of hardware and a commensurate increase in spending on software, services and telecommunications. This trend is all the more favorable for DP services insofar as "hardware sales" actually include a portion of software implemented by service firms for equipment vendors (particularly basic software).

**The rare and valuable aspect of the DP industry is not its ability to manufacture standard components, but instead its intellectual capacity for adapting the potential of data processing to specific needs.**

French Government : Options of the Eighth Plan.

**Worldwide DP Industry sales totalled 75 billion dollars in 1979 : \$56 billion for the products industry and \$19 billion for the service industry.**

On the structural level, the DP industry includes :

- **major computer manufacturers** : a dozen companies warring over their respective shares of the world market. Among them, the Americans clearly hold the dominant position, as they control over 80 % of the market. Growth in this sector is on the order of 13 to 15 % annually.

- **manufacturers of peripherals, terminals, systems and dedicated products** : several hundred companies are active on this extremely dynamic market, which is growing at an annual rate of 20 to 25 % ; certain "hot" sectors related to microprocessors, telematics and computer-aided design are showing much higher growth rates.

- **service companies specializing in "software services"** : these constitute a highly-developed sector, but one which is quite fragmented, as the majority of these firms are small in size. On the international level, only a dozen of these companies show sales over \$100 million and offer a full range of services : auditing, consulting, technical assistance, basic and application software implementation, systems and large-project engineering, etc. It should be pointed out that only one of these frontrunners is European : namely, CAP GEMINI SOGETI.

In view of increasing software demand, it is not surprising to observe that the market for software services is also growing rapidly : on an average of 20 to 25 % during recent years. And this trend should at least remain steady in the medium-term view.

- **service companies specializing in computer-based services** : numbering in the thousands worldwide, these companies sell "DP energy", either on their own premises or by remote terminal access, in the form of machine time or, increasingly, complete DP solutions to corporate management problems in companies preferring not to buy their own central computer. Some twenty of the world's computer-based service companies show sales of over \$100 million; three of them are French: GSI, CISI and SG2. Overall growth is in the neighborhood of 20 %, but certain specialized market segments — such as network services or data bank access — are advancing at a higher rate.

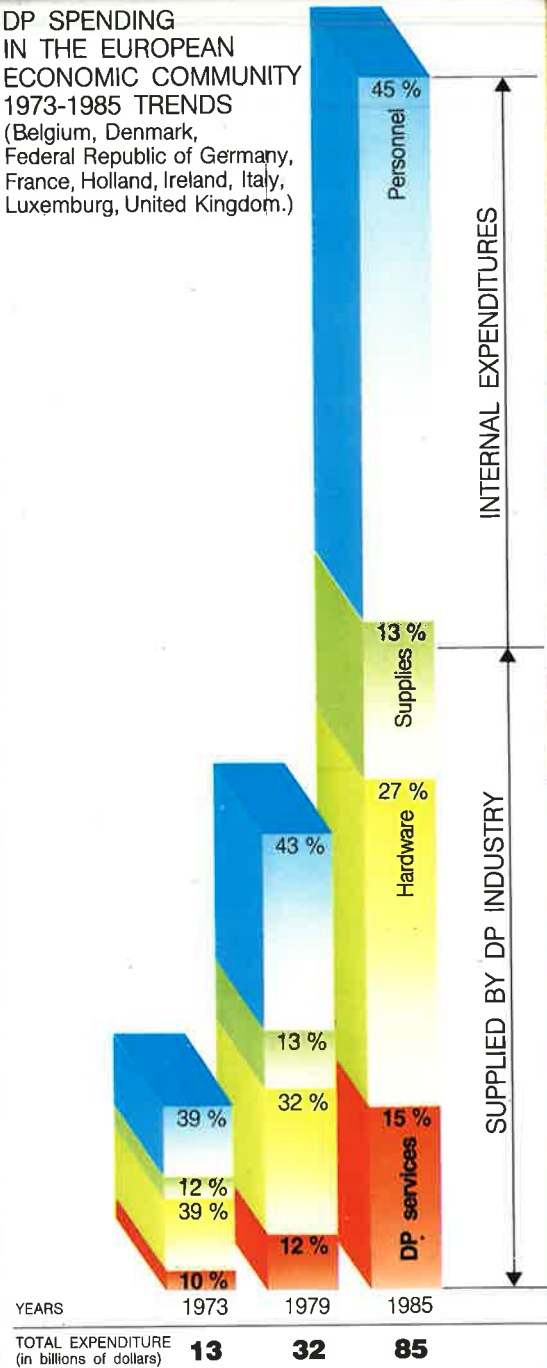
Finally, the DP industry is moving closer and closer to other, distinct industrial sectors :

- an increasingly sizeable portion of the **telecommunications industry**, which makes use of identical DP techniques (particularly software techniques) and sometimes addresses the same markets with products such as private electronic branch exchanges, terminals and digital transmission systems ;

- **the microelectronics industry**, which delivers nearly 40 % of its output to DP hardware manufacturers. Moreover, manufacturers of complex integrated circuits (microprocessors) are themselves now selling veritable computers, assembled from a handful of components, leaving the task of implementing necessary software (or having it fabricated by service firms) to their distributors or large-scale users ;

- **the data media industry**, manufacturing magnetic disks, diskettes, tapes and cassettes, computer printout paper and special media (micro-processor-based "smart cards", magnetic-stripe tickets, etc.).

DP SPENDING  
IN THE EUROPEAN  
ECONOMIC COMMUNITY  
1973-1985 TRENDS  
(Belgium, Denmark,  
Federal Republic of Germany,  
France, Holland, Ireland, Italy,  
Luxembourg, United Kingdom.)



## THE DP INDUSTRY

### PRODUCTS INDUSTRY

- Computers
- Peripherals
  - standard terminals
  - dedicated terminals
  - printers
  - auxiliary memory
  - data entry hardware
- Communications hardware
  - concentrators
  - multiplexers
  - modems

### SERVICE INDUSTRY

- Software services
  - consulting
  - software implementation
  - project management
  - training
- Computer-based services
  - service bureau processing
  - network services
  - facilities management
  - data entry

# SERVICES OFFERED BY CAP GEMINI SOGETI

The variety of types of users, of applications and of service requirements is huge. Implementing a payroll application on a minicomputer, maintaining inventory control software, developing a data transmission network management system, training of technical staff are examples of that.

Only a few corporations are able to offer the whole range of software services. Among them, CAP GEMINI SOGETI is doubtless the only one, worldwide, which offers, thanks to its international coverage, the whole set of services in Western Europe as well as in the United States ; and also, relying on its organization, exports to the Middle East, to Africa and to Latin America.

The various services offered by CAP GEMINI SOGETI are described below.

## Consulting and technical assistance

This involves assistance to corporations — or any other organization — to make the best use of their DP resources, acting on the technical level as well as from the human and financial standpoints. The Group's primary operations include : drafting of master plans, feasibility studies, consulting in methodology, DP organization, specification writing, advice on hardware selection, systems analysis, DP security procedures, guidance in the use of state-of-the-art procedures, etc.

**"Software is invading the realm of human activity. Thus, without our really having asked for it, our materialistic society is giving birth to a civilization of the immaterial."**

From an article by André Danzin in *Le Figaro*.



The well-known US newspaper LOS ANGELES TIMES has implemented a dp system for Home Circulation Delivery to its 1,25 M subscribers.

DASD, member of the CAP GEMINI SOGETI Group, participated in the internal system design as well as guided the implementation and tuning of the on-line, real-time system.

Besides the application itself, which had to be implemented into an already existing system without disturbing it, it appeared necessary to develop sophisticated testing programmes for performance

and stability evaluation of the main components of the system under severe operating conditions.

The expected advantages of the system are already confirmed after a few month's operation, since it provides a basis for improved communication between the subscribers and the people having delivery responsibilities.

## Software and systems design and implementation

CAP GEMINI SOGETI designs, implements and delivers DP systems making use of any hardware types already in the customer's possession or to be procured directly from computer manufacturers.

These systems are intended for the processing of applications required by users, embracing :

- management applications : accounting, financial, commercial, personnel management, industrial management, etc.
- office automation applications : inter- and intracompany communications systems, electronic mail, word processing, electronic appointment calendar, etc.
- scientific applications : scientific and technical calculations, computer graphics, simulations, etc.
- industrial applications : automation, quality control, process control, computer-aided design, etc.

Led by experienced project managers, these implementations are preceded by analyses for the precise definition of the specific features of the applications in question. The final product, a set of processing programs tailor-made for the application, is accompanied by full documentation for optimal program operation and maintenance.

#### Basic software

CAP GEMINI SOGETI's engineers have carried out major projects for most of the large hardware manufacturers and for numerous civilian and military government agencies. They have served as consultants for the definition of specifications; they have participated in developments; or they have implemented complete subsystems. These "basic software" teams have acquired special know-how in the following fields: assemblers, compilers — particularly in the SIL (System Implementation Language) and HOL (High Order Language) fields, teleprocessing subsystems (Transaction Processing Monitor), systems program products, etc. Industrialization of the development of basic software tools for a wide range of hardware and for numerous computer manufacturers has enabled the Group to develop transportability techniques resulting in lowered costs, shorter product fabrication deadlines and enhanced product reliability.

#### Large projects

In terms of size, of wealth and diversity of technical potential, of location — CAP GEMINI SOGETI is represented in the leading European countries and the United States — the Group is the best qualified to provide complete engineering for large projects (including the implementation of DP networks).

A large project is an extensive, complex undertaking characterized by the multiplicity of hardware types and techniques to be employed, the volume of information to be processed, the diversity of implementing teams to be assembled, the size of the financial investment at stake, the publicity given to the project and the responsibilities of its participants. When taking over a large project, CAP GEMINI SOGETI applies a stringent management method (both for definition of goals and for progress supervision) and makes use of dedicated tools enabling it to effectively forecast and monitor implementation budgets and deadlines.

#### Training

The Group possesses an extensive library of training modules (detailed programs, instructors' guides, trainee course materials, collections of exercises) backed up by a full range of audiovisual materials (animated films, sound/slide presentations, back projection transparencies) enabling it to carry out:

- in-house introductory courses to data processing,
- full-length professional DP training cycles,
- specialized retraining and advanced training courses for DP professionals.

Each year, moreover, CAP GEMINI SOGETI's "Collège Informatique" offers a number of very high level seminars designed to cover the latest developments in certain key fields of data processing. Highly integrated and compressed — generally two days' duration — these seminars are aimed at DP executives and their direct subordinates ("DP Management", "Review Seminars", "Applications: The State of Art" cycles). The Collège

Informatique's 1981 program is also including several seminars of a technically more advanced nature, intended for specialists participating in advanced projects ("Specialists' Techniques" cycle).

#### Software products

Among CAP GEMINI SOGETI's priority lines of development, emphasis is placed on promotion of the use of aids to DP productivity. For over ten years, the Group has been implementing and distributing program products, or "packages", meeting this goal, while using them itself in the exercise of its service activity.

These products — hundreds of which have already been installed at user sites — primarily include software development and documentation aids (CPL1, SIP, ADOC) and librarians (MULTILIB).

CAP GEMINI SOGETI also offers data transmission network test and connection software (ESOPE, RTX 25, NTI).

#### Assistance to operation

As soon as a computer and its software are up and running in a computer center, the "machine room" takes on the features of an industrial production unit requiring logistical organization and management.

CAP GEMINI SOGETI provides (in France only) a complete line of these logistic services, including assumption of full or partial responsibility for computer center operation, consulting on computer center organization and operation, etc.

#### Computer-based services (France only)

Through its specialized subsidiaries, the Group offers a complete and integrated set of machine services, running from data, text and videotext entry to the use of information-providing centers equipped with powerful information storage, processing and distribution facilities.



In Switzerland, CAP GEMINI SOGETI is implementing a project for computerization of pharmacies.

This system will provide druggists with an immediate point-of-sale product and patient management facility. While easing inventory management tasks, the system

will enable druggists to detect pharmaceutical contraindications for individual customers.

On the administrative level, a special module is included for prescription processing, automatic dosage label printout and billing.



The major computer services market 1979, in millions of dollars

	190	240	450	400	1600
CAP GEMINI SOGETI Group locations	NORWAY	BELGIUM	SWEDEN	NETHERLANDS	FRANCE
	Oslo Bergen Skien Trondheim	Brussels Antwerp Liege	Stockholm Goteborg Karlskoga Sundsvall	Rijswijk Utrecht Amersfoort Eindhoven s'Hertogenbosch Rotterdam	Paris Bordeaux Grenoble Lannion Lille Lyon Marseilles Montpellier Mulhouse Nancy Nantes Orleans Rennes Rouen Toulouse



## THE COMPUTER SERVICE MARKET

The world's computer service companies registered 1979 sales totalling 19 billion dollars (or approximately one-quarter of overall DP industry revenues), 6.5 billion dollars of which in Western Europe. It is interesting to note that this sales volume exceeds the corresponding figures for civil aviation, machine building and household appliances.

The DP services industry is characterized by three major features :

- it is a high-growth sector. The average increase in its revenues over the next decade is currently estimated at 10 % yearly in constant money (or 20 to 25 % in current money, given present rates of monetary erosion in the Western world).

At this rate, the service market will outstrip the DP hardware market — whose sales growth is being inexorably braked by the falloff in electronic component prices — by 1985.

- it is a job-creating sector — particularly in high-skill employment areas : over half of present service-firm workforces are made up of engineers and senior technicians.
- the largest service firms are organized along the lines of veritable industrial groups, as witnessed by their strategy for the installation of marketing networks and technical resources — adapted to the services that they distribute, of course — and reflected in their investment policies (investment in training, production facilities and resources for technical and geographic development) and in their research and development programs, to which they necessarily devote a substantial share of their income.

CAP GEMINI SOGETI is highly representative of the large service-firm sector as characterized in the foregoing: a growth rate (in constant money) of the order of 30 %, a highly-qualified and ever-growing workforce and a tight coverage of the major Western markets, as illustrated in the country-by-country list of its locations (above).



230

# **SWITZ- ERLAND**

Geneva  
Basel  
Berne  
Lausanne  
Zurich

8350

# **USA**

Washington  
Milwaukee  
Atlanta  
Baltimore  
Chicago  
Dallas  
Denver  
Des Moines  
Detroit  
Houston  
Indianapolis  
Kansas City  
Los Angeles  
Minneapolis  
Philadelphia  
Pittsburgh  
Portland  
San Francisco  
Seattle  
Saint-Louis  
Tampa

900

# **GREAT BRITAIN**

London  
Manchester  
Southall

150

# **SPAIN**

Madrid

1150

# **FEDERAL REPUBLIC of GERMANY**

Düsseldorf  
Berlin  
Munich

180

# **FINLAND**

Helsinki

310

# **DENMARK**

Farum



“What is scarce is not so much hardware as software, that is, the capability of logical reflection which today constitutes the raw material shared by all innovation.”

French Government : “Options of the Eighth Plan”

## **THE MAJOR COMPUTER MARKETS(\*)**

In millions of dollars	Total market			Software services 1979	Computer-based services 1979
	Total 1978	Total 1979	Δ 79/78		
Western Europe	5,310	6,510	+ 22.6 %	2,540	3,970
USA	6,765	8,350	+ 23.4 %	3,000	5,350
Japan	1,750	2,130	+ 21.7 %	725	1,405

The table above shows the volumes of the European, American and Japanese DP service markets, with a breakdown between the two major service categories (defined on page 7 of this Annual Report).

Over 94 % of CAP GEMINI SOGETI's sales are derived from software services, primarily in Western Europe and the USA, together with revenues from software products and resources exported to other continents from the Group's main locations.

(\*) The figures given have been estimated by means of interpolation from a number of information sources. In contrast to previously-published figures, these reflect market research firms' improved understanding of the situation of DP services in certain countries. In order to maintain uniformity between geographic units and information sources, moreover, the categories formerly distinguished as “systems engineering” and “software services” have been consolidated under the latter heading.

It should also be noted that constant-money comparisons between one year and another are strongly influenced by inflation and changes in foreign exchange rates (example: the exchange rate for the pound sterling relative to the dollar rose by 11 % between 1978 and 1979).

In view of these necessary precautions, experts are unanimous in their opinion that the above market volumes and growth rates are realistic, if the contextual data represented by DP spending and the hardware markets are taken into account.

# COMPUTER SERVICES: WHAT DO THEY OFFER?

What is the explanation behind the spectacular development of the computer service industry? What, in other words, is the explanation behind the particular propensity of business and government to subcontract whenever they are faced with a data processing problem?

The reasons for the striking growth of computer services - and particularly of large software houses specializing in professional services - can be summarized by referring to five essential traits:

## **Professionalism**

Above all, members of the computer service trade are professionals selected with an unusual degree of care. They work in a homogeneous environment where data processing is the *raison d'être* of their employer firms. Obviously, the success of their careers will depend on the quality of their work. But their individual capabilities will also be reinforced by the environment provided by their company: diversity of experience, availability of state-of-the-art development tools, immersion in rational working methods tending to optimize the search for quality, efficiency and economy.

Careful recruiting and continuing training, the creation and effective application of methods and tools designed to increase productivity, to enhance and monitor the quality of every phase of software product development have always been priority targets of CAP GEMINI SOGETI's efforts, and their success has substantially improved the professionalism of the Group's activities.

## **Diversity of potential**

As they move from one assignment to another, software service teams encounter a wide variety of applications, hardware types and programming languages. The experience gained by large service firms from this diversity of situations and requirements enables them to formulate and implement speedy, optimized solutions, relieving users of the burdens of lost time and expensive, inefficient investments.

## **Advanced techniques**

By their very nature, large service companies must maintain a solid foundation of expertise in the most advanced fields of data processing: present-day examples might be the "smart" cash/credit card and its applications, satellite communications and its range of current or potential services, or corporate word processing and electronic message services. Their technological features contribute to a genuine enrichment for a customer who - his attention taken up by day-to-day problems - would scarcely be in a position to profit fully from general technological advances without the assistance provided by computer service firms.

## **Operational flexibility**

Large computer service companies are organized to respond to any sort of request, from the implementation of a handful of programs to full engineering of projects involving investments running into scores of man-years.

In particular, these companies can quickly mobilize resources offering a

scope and technical sophistication available to very few organizations. This possibility is an essential quality in the eyes of users, who are thus enabled to continuously adapt and update their workload programs.

## **User protection**

In the face of computer manufacturers, whose natural defensive strategy is one of maintaining the incompatibility between their products and those of their competitors, software service firms are the sole agents in a position to sustain a policy of portability or adaptability which alone can ensure user independence and, above all, protect the substantial investment poured into the user's program portfolio.

CAP GEMINI SOGETI is one of the service companies which develops "portable" software - i.e., programs capable of running on distinct hardware types - and interfaces between non-compatible machines.

To all of these aspects - shared by the DP service profession as a whole - we should add three further features specific to CAP GEMINI SOGETI, and resulting from the Group's size, methods and policy:

#### **Worldwide credibility**

CAP GEMINI SOGETI is today the only software service firm with a significant presence on the chief European markets and in the USA. This unique characteristic provides it with a volume of business references, a technical and commercial credibility and an operational capability unrivalled in the DP service sector.

#### **"Market-hugging" organization**

From the operational standpoint, CAP GEMINI SOGETI's organization is decentralized so that each branch manager can react rapidly and effectively to market demand and new technical developments. The Group's 100 branch managers know each of their employees and each of their customers. Getting their information at the source, they can make the most enlightened decisions on matters such as personnel assignment and problem solving for customers.

#### **Quality of service**

The Group's presence on all of the major markets, its continuing effort to enhance working methods and tools and to provide each subsidiary with the benefits of overall technical progress, its organization designed to ensure that users receive the attention of Group management under all circumstances all enable CAP GEMINI SOGETI to achieve a high level of worldwide service quality. And it is the firm intent of Group management to maintain this grade of service at the highest possible level.

### **CAP GEMINI SOGETI's software activities: diversity**

Management-oriented business and government applications represent the largest source of software requirements in volume, and it is highly probable that this situation will prevail for many years to come. As the following shows, however, CAP GEMINI SOGETI's activities are not limited to meeting this demand. On the one hand, the market itself is growing diversified ; on the other, CAP GEMINI SOGETI carries out research and development operations which it needs in order to maintain its technological lead in the software field.

#### **1. Research and development**

CAP GEMINI SOGETI pursues two very distinct goals in its software R&D effort :

- extend its understanding of the technical and human processes involved in software implementation, and discover ways of enhancing the developmental process.
- master new technologies by participating in their development and adaptation to real situations.

#### **2. Software-development software**

The use of software development tools is one way to advance the efficiency of programming operations and improve the quality and reliability of the end product. CAP GEMINI SOGETI creates and enhances ranges of tools and methods of this type (refer to page 29 of this Annual Report).

#### **3. Basic software for computer and telecommunications hardware vendors**

Basic software - the computer's nerve system - has also become the controlling agent for a number of other hardware types, particularly in the telecommunications field. CAP GEMINI SOGETI teams specializing in systems architecture are implementing basic software such as utility programs, compilers, monitors, etc., for the hardware manufacturers.

#### **4. Application software for business and government DP departments**

Very generally speaking, applications are installed and run on computers by business and government DP departments. These internal services frequently task CAP GEMINI SOGETI with the fabrication of all or part of necessary software and, if required, subsequent maintenance. Software maintenance involves its adaptation to any change in

computer configuration, improvement of its efficiency on the basis of operating experience, integration of new functions or parameters, and correction of any errors detected during use.

#### **5. Distributed DP software**

Thanks to microprocessors and telecommunications networks, the dissemination of data processing is becoming an everyday reality in all sectors of activity. Small business, individual users, secretarial services, drugstores, automobiles are - or will be - the consumers of a new information economy. CAP GEMINI SOGETI is making its contribution to the rethinking of programming languages and basic software with a view toward uses of data processing differing greatly from those with which we are familiar today.

*You  
computer service companies  
have a major role to play  
in bringing the new languages,  
the new techniques  
within everyone's reach:  
briefly stated, in democratizing  
the realm of telematics.*

*From a speech by Norbert Segard, former French Cabinet Minister.*



$$f(x, y), x > 0, y(0) = y_0, x_n$$

$$= f(x_n, y_n^c), f_n^p = f(x_n, y_n^p)$$

$$y_{n+1} = y_n^c + h/2 [f_n^p + f_n^c], \rightarrow$$

$$y_{n+1}^p = y_{n+1}^c + 2h f_n^p, y_n^c = y_n^p$$

$$\alpha_0^p y_{n+1}^p + \alpha_1^p y_n^p + \sum_{j=2}^k \alpha_j^p y_{n-j+1}^p$$

$$\alpha_0 y_n + \alpha_0^* y_n^p + \sum_{j=1}^k \alpha_j y_{n-j} + h \beta_0$$

$$d_0 = \begin{pmatrix} \alpha_0^p & 0 \\ 0 & \alpha_0 \end{pmatrix}, d_1 = \begin{pmatrix} \alpha_1^p & \alpha_1^p \\ \alpha_1^* & \alpha_1 \end{pmatrix}, d_j = \begin{pmatrix} \alpha_j^p & \alpha_j^p \\ \alpha_j^* & \alpha_j \end{pmatrix}$$

$$b_i = \begin{pmatrix} \beta_1^p & \beta_2^p \\ \beta_0 & \beta_1 \end{pmatrix}, b_j = \begin{pmatrix} 0 & \beta_j \\ 0 & \beta_j \end{pmatrix}$$

$$h \sum_{j=1}^k b_j f_n^p$$

$$\sum_{n=s+1}^{2s} (b_j)_{q_i} \frac{f_n^p}{d_i}$$

$$(b_j)_{q_i} (f_{n-j}^p)_{q_i} =$$

$$) = y'(x_n) + \Theta_i X_i$$

$$x_{n-i} = y(x_n) + ih [y'(x_n) + \Theta_i' X(ih)]$$

$$\omega_{m-k}^{(s)} e + h \omega_{m-k}^{(s)} \begin{pmatrix} (s-1) \\ -s \end{pmatrix} + h \begin{pmatrix} (s-1) \Theta_{s-1}' X((s-1)h) \\ (-s) \Theta_s' X(sh) \end{pmatrix}$$

$$= \partial_0 \vec{L}_m - [(A(H) - \partial_0 H^k) \vec{y}_{m-k} + h B(H) \vec{f}(\vec{y}_{m-k})] +$$

# CAP GEMINI SOGETI 1980





## CAP GEMINI SOGETI: ORGANIZATION

Within an apparently-conventional structure made up of a "general staff" and operational units, the Group has actually organized itself in the manner which it has viewed as the most efficient for a service company which consists of people "only" and which manufactures no physical goods.

This organization has been inspired by three governing ideas:

- ensure operational decentralization by making highly-autonomous branches the lowest common denominator of its organization. The basic operational unit, formed by the branch, is sufficiently small (40 employees, on the average) to enable the branch manager to be personally acquainted with each of his customers and each of his subordinates, and sufficiently large that the manager can assume full responsibility for his resources and his results. Branches are consolidated into divisions or regions, which in turn are grouped to form companies.
- maintain overall coherence by defining a common policy, and to ensure that corporate structures are continuously adapted both to this policy and to momentary constraints. This is effected by staffing the parent company with a team which, while small, is in close touch with the inner workings of the operational subsidiaries,
- prepare and encourage CAP GEMINI SOGETI's development on two levels:
  - growth on the major world markets, not only by viewing export as a natural complement to a domestic activity, but also by reinforcing the Group's European and North American presence through wholly-controlled subsidiaries and by establishing cooperative ties with numerous "non-western" nations.
  - technical development, through substantial investments in all fields promising to encourage the growth of service activities during forthcoming years.

The application of these principles has led to the distribution of CAP GEMINI SOGETI's activities among a number of divisions and companies, as illustrated in the organizational diagram opposite.

### IN FRANCE,

where CAP GEMINI SOGETI's presence is of longest date (1962), functions are initially allocated by type of activity; within the Group's chief activity, summarized by the designation "consulting and software development", companies are specialized by major market.

Thus:

- CAP SOGETI LOGICIEL provides consulting and software implementation services within the public and semi-public sectors and the DP industry, while developing and distributing software products on behalf of the Group as a whole.
- CAP SOGETI SYSTEMES performs consulting and software development tasks within the private sector and with the government-owned banking and insurance systems. Through CAP SOGETI FORMATION, it also provides services of training, recruiting and organization of high-level seminars.

- DTES (Division Traitement, Exploitation, Saisie) is the only unit within the Group to provide computer-based services (ranging from data entry to service-center processing and use of information-providing centers for electronic information distribution). DTES also provides the French market with its capabilities in consulting and facilities management in the DP operations field.

### ELSEWHERE IN EUROPE,

functions are divided on a geographic basis, within the nine subsidiaries located in the main European countries.

Following is a list of these operational companies:

- BRA in Sweden
- CAP GEMINI BELGIUM in Belgium
- CAP GEMINI DEUTSCHLAND in the Federal Republic of Germany
- CAP GEMINI ESPANA in Spain
- CAP GEMINI NEDERLAND in the Netherlands
- CAP GEMINI SUISSE in Switzerland
- DATA LOGIC in Norway
- IAL GEMINI in Great Britain
- PANDATA in the Netherlands

### IN THE USA,

two distinct companies carry out consulting and software activities: CAP GEMINI Inc., founded by the Group in 1978, and DASD, acquired in 1981 and covering the entire USA with its 20 branches. CAP SOGETI LOGICIEL also opened a software products sales office in Boston on 1 January 1981.

This organization is managed, supervised, coordinated and guided by the following internal agencies:

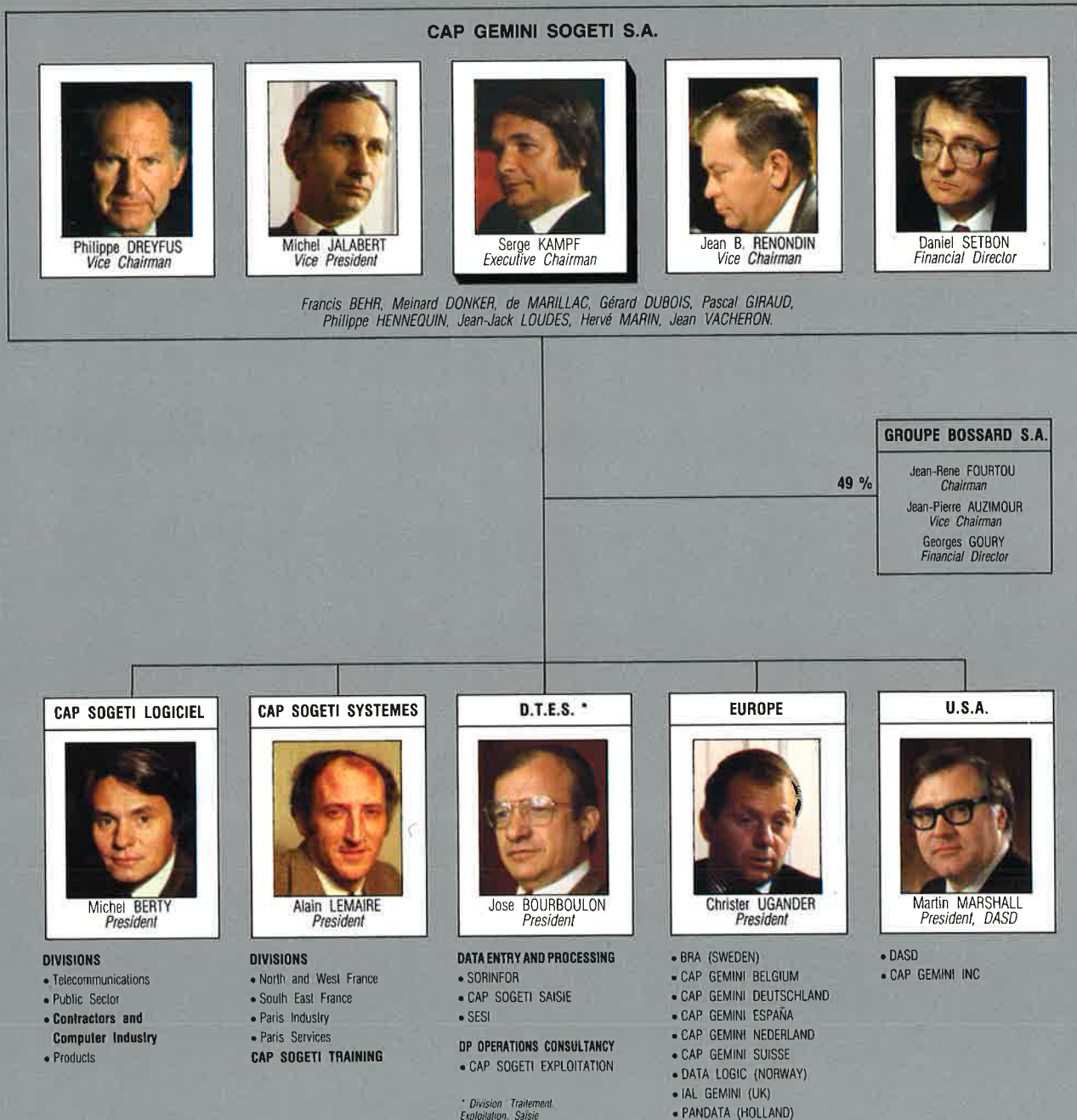
- the **Board of Directors** of CAP GEMINI SOGETI S.A., the holding Company, currently composed of nine members, of whom six are managers of the Group.
- the **General Management Committee**, essentially composed of the general managers of the major operational units, which meets quarterly to advise on the Group's general policy guidelines and rule on all matters involving inter-company relations.
- the **Executive Committee**, which regularly brings together the Group's top executives under the chairmanship of Serge Kampf, Executive Chairman of the holding company, to prepare important decisions regarding the Group and to define its overall strategy.
- the **Commercial Coordinating Committees**, meeting weekly in France (and monthly elsewhere) to organize the coordination of the various units, ensure their cooperation and guide short and medium-term sales programs.

Moreover, three-day "Rencontres" are held at one or two-year intervals to bring together – besides a few outside guests and friends – all the managers, supervisory engineers and administrative officers of all the CAP GEMINI SOGETI companies, to participate in proceedings on a topic of mutual interest during one of the three days duration of the meeting.

## GROUP ORGANIZATIONAL CHART AS OF MAY 1, 1981

As shown in the organizational diagram below, the CAP GEMINI SOGETI Group consists of a holding company, CAP GEMINI SOGETI S.A., and five major operational units sharing the markets of three geographical units (FRANCE, EUROPE, USA). The companies belonging to these major units are wholly-owned (or nearly wholly-owned) subsidiaries of CAP GEMINI SOGETI S.A., with the exception of the

British company IAL-GEMINI, in which CAP GEMINI SOGETI owns 51 %, and our partner International Aeradio Limited (a subsidiary of British Airways) holds the remaining of the shares. The Group also owns 49 % of the shares in Groupe Bossard S.A., a holding company whose subsidiaries' activities are divided between organizational, consulting and human relations, marketing and advertising.



The organization and activity of each of the major units indicated above, employing 550 (USA) to over 1,000 (CAP SOGETI SYSTEMES) DP professionals, is presented more fully in the following pages.

# CAP SOGETI LOGICIEL

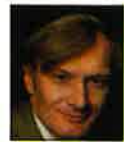
With nearly 700 employees – two-thirds of them being engineers – and 1980 sales of 154 million francs, CAP SOGETI LOGICIEL unquestionably represents one of the most powerful instruments for basic software and complex systems implementation in France.

Organized in the form of three Paris-based divisions (and having a number of specialized centers in regional France), CAP SOGETI LOGICIEL's market specifically includes:

- civilian and military agencies of the government, and public and government-owned corporations,
- the computer peripherals, telephone and space industries,
- computer manufacturers and engineering firms.

CAP SOGETI LOGICIEL is also tasked with the development and marketing, in France and abroad, of the Group's proprietary software products.

## TELECOMMUNICATIONS



Alexandre HAEFFNER  
Division manager

## CONTRACTORS AND COMPUTER INDUSTRY



Jacques DUPUY  
Division manager

## PUBLIC SECTOR



Robert DUNAND  
Division manager

## PRODUCTS



Patrick LUCAS  
Division manager

Special Projects and Export:	Jacques Masson
Organisation and Methods:	Jean-Marc PONTIUS
Technical Survey:	Roland QUEME

## MAIN BRANCHES BRANCH MANAGERS

Telecommunications	Roland KOCH
Terminals and telephone 1	Michel COMBES
Terminals and telephone 2	Bernard PEYRUCQ
Space industry	Jean Loup BOUDINEAU
Technical Centre of Rennes	André RENAULT
Administrations	Robert DUNAND Christian DOEHR
Public Sector Communication	Bruno CLERY
Public Sector Energy	Jean Marie BARRE
Military	Christian GALLIN
Army	Yves CORON
Navy, Air Force, Missiles	Claude DRAY
Manufacturers 1	Pierre GILLIER
Manufacturers 2	Dominique MAISONNEUVE
Contractors 1	Alexandre LEVY
Contractors 2	Denis SERGENT
Technical Centre of Grenoble	Bernard DENIS
Software Products France	Alain LE BOS
Software Products USA	Jean Louis ZIESCH
SIP Products	Philippe POINTON



From left to right:  
Gilbert ELOIRE,  
Deputy General Manager  
Michel BERTY,  
President  
Jean-Paul FIGER,  
General Manager



Given the economic sectors served by CAP SOGETI LOGICIEL, it is hardly astonishing that most of the jobs implemented by this company make use of state-of-the-art techniques, or that it is active in the large-project field. These two aspects of CAP SOGETI LOGICIEL's activity, along with the many products developed by its engineers, are illustrated in the following examples.

### STATE-OF-THE-ART TECHNIQUES AND APPLICATIONS

The most significant of the advanced techniques employed by CAP SOGETI LOGICIEL, and the chief areas of new applications in which the company has carried out its projects include:

- software engineering
- telecommunications networks
- videotex
- database machines
- natural languages
- robotics technology and workshop automation

Moreover, thanks to its participation in scientific working groups and its works for research laboratories and organizations, CAP SOGETI LOGICIEL investigates new systems architecture, language development and telecommunications-based services.

Among the advanced projects in which CAP SOGETI LOGICIEL is participating actively, we might quote the following two:

#### OFFICE AUTOMATION

The KAYAK project, initiated by the Institut Français de Recherche en Informatique et en Automatique (INRIA), has already come up with experimental successes such as the "Buroviseur", a stand-alone office workstation; local networks have been set up to connect individual "Buroviseurs" together and to public telecommunications networks.

#### SATELLITE COMMUNICATIONS

Satellite-routed networks open prospects for new applications which benefit from their high-speed transmission potential, such as concurrent interrogation of a collection of databases.

CAP SOGETI LOGICIEL is a participant in the NADIR pilot project, the goal of which is to implement applications using satellite communications facilities such as access to remote services, remote distribution of software or data, intracompany electronic message services and distributed command systems.

### CURRENT LARGE PROJECTS

1980 was marked by the award of a number of sizeable contracts to CAP SOGETI LOGICIEL, particularly in the telematics and network fields. Three of these deserve special attention:

#### ELECTRONIC DIRECTORY

CAP SOGETI LOGICIEL is one of the two prime contractors taken on for the design and implementation of the Electronic Directory Inquiry System under test in France's Ile-et-Vilaine department. The company is in charge of a consortium including CII-Honeywell Bull, MATRA and TRT.

One of the French General Telecommunications Directorate's prime goals in this project is to ensure extremely easy public use of this new information service. Now undergoing trials in the homes and offices of 240,000 subscribers, the system is scheduled for nationwide expansion, to cover 34 million terminals by the target final installation date of 1992.

#### TELECOM 1

The General Telecommunications Directorate has asked an industrial consortium to implement a telecommunications network using the French satellite, TELECOM 1. CAP SOGETI LOGICIEL is developing the software for the network management center.

#### ARTIMON

The French Navy has recently contracted with a TIT/CAP SOGETI LOGICIEL consortium for implementation of its ARTIMON network for telegraph message transmission and switching.

### SOFTWARE PRODUCT DEVELOPMENT

CAP SOGETI LOGICIEL is carrying out a research and development program designed to consolidate its software product range and promote CAP GEMINI SOGETI's new techniques.

The new range of over-the-counter products — all used within the Group, as well — includes:

- Software development tools: portable CPL 1 compilers, PASCAL compilers, MULTILIB librarian, MULTIBASE database management system, ADOC text editor, SYSIF file query language, etc.);
- Programs for telecommunications: ESOPE (test and acceptance tool for TRANSPAC network connection procedures), RTX 25 (a TRANSPAC connection tool, intended for IBM 360/370 users);
- MULTITEL, a system for information-provider access to videotex applications.

New in 1981 is the systematic use of SIP in large-project implementations. Created by CAP SOGETI LOGICIEL, this machine is a combination of hardware and software fully dedicated to program writing, documentation and maintenance. SIP is made up of workstations connected to a small development computer: a structure which relieves user mainframes of development workloads.

# CAP SOGETI SYSTEMES

France's first software service house to achieve a workforce topping the 1,000 mark, CAP SOGETI SYSTEMES offers a complete range of services:

- to industrial and service-sector firms (banks, insurance companies, etc.) in the Paris region;
- to the entire public and private service sector, in regional France.

The market addressed by CAP SOGETI SYSTEMES — and in which the company chalked up a 1980 sales figure of 180 million francs — is characterized by its diversity: diversity of application types (conventional management, networks, telematics systems, technical and scientific calculation, industrial applications, etc.); diversity of customer size, ranging from small businesses to multinationals; diversity of hardware employed; and, finally, diversity of installation sites, running from Lille to Marseilles, from Bordeaux to Mulhouse.

This characteristic underlies CAP SOGETI SYSTEMES' structure, which at once stresses decentralization and establishes favorable conditions for the assignment of engineers specializing in a varied range of techniques and applications.

## NORTH AND WEST FRANCE



Jacques GERTHELOT  
Division manager

## SOUTH EAST FRANCE



Hervé JAHAN  
Division manager

## PARIS INDUSTRY



Jean-Philippe GAILLARD  
Division manager

## PARIS SERVICES



Jean-Marc SCHAUWIEGE  
Division manager

## CAP SOGETI FORMATION



Cornel SIMU  
Manager

New Techniques: Jean-Claude GUILLET

Organization and Methods: Claude DENIAUD

Sales Development: Jean SAINT-HUBERT



From left to right:  
Jean-François DUBOURG,  
General Manager  
Alain LEMAIRE,  
President  
Edouard BAZEILLE,  
Deputy General Manager

CAP SOGETI SYSTEMES' branch network is made up of units assigned with responsibility for an economic sector in Paris or a regional, geographic responsibility. The table below lists the eight Paris branches and the thirteen regional branches which bring CAP SOGETI SYSTEMES close to its customers throughout France.

BRANCHES	BRANCH MANAGERS
<b>PARIS</b>	
Mechanical Industry	Jean-Pierre REY
Chemical Industry	Raymond PAWLOWSKI
Electrical Industry	André WORONIAK
Petroleum/ Aircraft Industry	Théodore KLOCANAS
Banking 1	Christian CHEVALLIER
Banking 2	Bernard SARRAZIN
Insurance	Jean-Luc CHATEAU
Services	Pierre GUILLONON

#### REGIONAL FRANCE

Bordeaux/Toulouse	Paul CHAFFARD
Grenoble	Patrick BARBEROUSSE
Lille	Marcel de TAEVERNIER
Lyons 1	Claude GUICHARD
Lyons 2	Jean-Pierre PANDIN
Lyons 3	Christian SOUCHON
Marseilles 1	Jean-Claude BUSELLI
Marseilles 2	Jean-Marie LAVASTE
Nancy/Mulhouse	Yves DREYFUS
Nantes	Bertrand de TROGOFF
Orleans	Jean-Michel PARMENTIER
Rouen	Philippe de BEAUCHAMP



#### NEW WAYS TO PAY

The expertise acquired by CAP SOGETI SYSTEMES in the automation of teller-station operations has been acknowledged by France's leading banks and hardware manufacturers. Today, the "teller window" is on the sidewalk or on business premises, and will soon find its place in the home, thanks to the telephone. New network architectures, new communications standards (such as videotex), new terminals: this is the everyday environment of our specialists in "cash-less" payment facilities, as illustrated by the following examples:

##### Automatics teller stations:

After having participated in tests on a range of technical solutions for equipping a major French bank, Banque Nationale de Paris, with automatic teller stations, CAP SOGETI SYSTEMES is currently engaged in development of software for the equipment adopted, and is also responsible for implementation of the central system which will process teller-station operation.

##### "Smart" cards:

Working for the French General Telecommunications Directorate, CAP SOGETI SYSTEMES is implementing a test bench for evaluation of the performance, reliability, security and human engineering of designs proposed by hardware vendors.

##### Videotex:

At the French bank, Crédit Commercial de France, CAP SOGETI SYSTEMES is developing an information-providing center which — for the first time in this country — will jointly manage the bank's automatic teller network and videotex terminals installed on corporate premises or in private homes.

##### Security:

CAP SOGETI SYSTEMES is implementing an experimental system ensuring the confidentiality of cash/credit card recognition algorithms. The security level is so high that the identification system will be undecipherable even to the technician programming the algorithm.

Société Nationale Industrielle Aérospatiale, France's government-owned aerospace manufacturer, has requested the Marseilles Branch to design and implement a system for management of its documentation. This body of information, which provides detailed descriptions of the use, operation and maintenance of every part employed in the company's helicopters, includes some 200,000 pages. The installed system automatically page-formats text continuously entered on diskette or magnetic tape files, manages the page-oriented database and facilitates word processing and on-line printout of part or all of memorized layouts.



Renault Véhicules Industriels, the automaker's truck manufacturing subsidiary, is going to provide its distribution network — branch offices and dealerships — with a new data processing system, based on IBM 8100 and CII-HB Level 6 hardware. CAP SOGETI SYSTEMES is imple-

menting the system's auxiliary accounting (accounts receivable, accounts payable, budgeting), general ledger and cost accounting applications.

Functional specifications have been brought up to snuff, using the DAM (Dictionary Analysis Method) software which — by cross-referencing data, output reports and processing rules — ensures the consistency of a system to be computerized.

The Avionics Equipment Division of Thomson-CSF has contracted with CAP SOGETI SYSTEMES for the design and implementation of its "Industrial Contract Management" project, intended to track progress of the Division's design and manufacturing operations. Managers will be able to record contracts, break them down into secondary orders, allocate credits by individual laboratory, produce instructions for plants, memorize labor and procurement costs and, finally, simulate expenses and establish payment forecasts by the drafting of expense tables, charts and graphs.

# TRAITEMENT, EXPLOITATION, SAISIE (\*)

Whether operating its own or its customers hardware, DTES (Division Traitement, Exploitation, Saisie) is active in France to perform computer-based services such as service center and data entry, and assistance to computer center operations.

These activities are shared by four Group companies:

- **SORINFOR**, whose mainframes and software facilities are used to process customer applications,
- **CAP SOGETI SAISIE** and **SESI**, whose specialist staff provides service-center data entry on their own hardware,
- **CAP SOGETI EXPLOITATION**, whose professionals help customers to manage their computer departments.

These four companies, with 1980 sales totaling 17 million dollars, are steering their development toward new areas such as videotex and automatic documentation : fields in which overall Group experience can be of the greatest use to purchasers of DTES services.

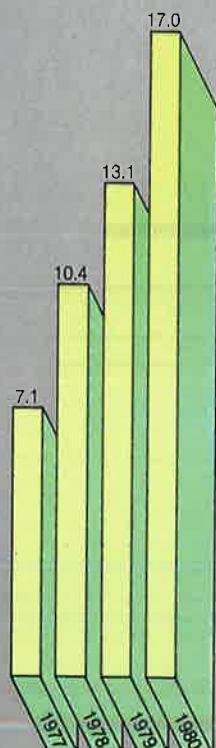
(\*) Traitement, Exploitation, Saisie : Processing, Assistance to Operations, Data Entry.



From left to right:  
Rémi DONNEAUD  
President, CAP SOGETI EXPLOITATION  
José BOURBOULON,  
President of DTES and of SORINFOR  
Serge COLLIGNON,  
Manager, Data Entry



EVOLUTION OF  
DTES REVENUE  
(in millions us dollars)



## DATA ENTRY AND SERVICE CENTER OPERATIONS



Catherine LIQUET  
Technical Manager,  
Data Entry



Jean-Pierre VERSAVEAUD  
Production Manager,  
SORINFOR



Three companies have been tasked with provision of computer-based services in France:

Two data entry specialists, CAP SOGETI SAISIE in Paris and Bordeaux, and SESI in Lyons, Grenoble, Salon-de-Provence, Marseilles and Montpellier. These two companies employ 350 operators working at 240 keystations to provide the following services:

- data entry (digital, alphabetic, graphic, analog, etc.),
- videotex frames composition and entry,
- word entry,
- word processing, service-center,
- training (in word processing, etc.).

The branches and officers representing the data entry companies include:

PARIS Public sector	Robert DUFLOS
Private sector	José SHOYAKA
AQUITAINE	Jean-Claude LORIUS
RHONE-ALPS	Pierre CLARET
MEDITERRANEAN	Christian ESPELLE



A service-center company, SORINFOR, working on Paris-based CII-HB hardware (IRIS 45 and 55, HB 66) to perform the following services:

- **Service-center processing** of repetitive, high-volume applications,

- **Videotex:** SORINFOR is a distribution center, managing and distributing information over a videotex network,

- **Automatic documentation:** thanks to AUTODOC, a powerful text-processing software product, and MISTRAL IV, a documentary retrieval package, SORINFOR is also an automatic-documentation providing center,

- **"DP energy" distribution:** whether in local or remote mode, SORINFOR's computers are called upon by users of identical (or compatible) mainframes for peak-period processing services,

- **Guaranteed backup:** SORINFOR provides a limited number of its customers with specific troubleshooting guarantees, on the basis of certain prior technical precautions and within the framework of carefully-preestablished and periodically-verified procedures.

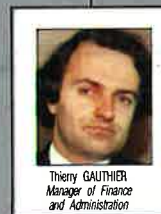
## ASSISTANCE TO COMPUTER OPERATIONS

### CAP SOGETI EXPLOITATION

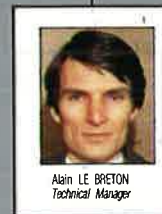
Pierre DONNEAUD



Georges COHEN  
Commercial Manager



Thierry GAUTHIER  
Manager of Finance  
and Administration



Alain LE BRETON  
Technical Manager

The intrinsic performances and potential of data processing systems involve the application of complex operating modes. Operational problems are therefore assuming ever-growing importance, substantially conditioning the efficiency and throughput of corporate data processing.

CAP SOGETI EXPLOITATION provides solutions for these problems, placing nearly 200 professionals skilled in the theory and practise of computer operations at its customer's disposal. CAP SOGETI EXPLOITATION's engineers and technicians also apply a set of methods developed within the company to handle both operational functions such as data preparation and console operations, and logistic functions such as network control and systems support.

Following are the services that CAP SOGETI EXPLOITATION provides to DP managements:

#### Technical Assistance

- full staffing of operator workstations or integration of specialists into the customer team,
- assistance to conversions, particularly during the difficult phase of starting up software resulting from conversion operations.

#### Training and supervision

- personalized onsite training sessions for customer personnel,
- supervision of operating personnel.

#### Consulting and methods

- operational surveys and diagnostics,
- organization of computer operations departments,
- creation of "methods" services,
- network management,
- performance measurements,
- optimization studies.

Like its fellow Group companies, CAP SOGETI EXPLOITATION is organized by branch, each responsible for its own territory and maintaining direct contact with individual customer firms:

PARIS Branches	Jacques AUGER
	Georges COHEN (acting)
	Jacques MONS
LYONS Branch	Martin SORBA

# EUROPE

The European Division brings together those CAP GEMINI SOGETI companies with activities in European countries other than France. Since the recent integration of the Norwegian firm Data Logic A/S, the Division has a workforce totalling 800 and embraces 9 corporations operating in 8 countries: Belgium, the Federal Republic of Germany, the Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom.

The Division is thus a true multinational entity made up of DP professionals with a widely-varying range of languages, customs and mentalities. Of all the computer service companies on the market, CAP GEMINI SOGETI can certainly point to the most emphatically multinational personality.

The unquestionable success of this international development is based on two fundamental principles which have consistently guided the CAP GEMINI SOGETI Group's expansion:

- **ADAPTATION TO LOCAL MARKETS:** this necessitates the establishment of national subsidiaries whose managements and professionals can deal with their customers on the basis of local needs, regulations and customs.
- **VALORIZATION OF THE GROUP'S INTERNATIONAL RESOURCES:** built by the application of management and working methods shared by all of the Group's subsidiaries, and by the inter-country exchange of practical experience.

BRA (SWEDEN)



Kaj GREEN  
General Manager

CAP GEMINI BELGIUM



Jean MILAN  
General Manager

CAP GEMINI DEUTSCHLAND



Wolfgang POEMER  
General Manager

CAP GEMINI NEDERLAND



Chris Van BRELIGEL  
General Manager

CAP GEMINI SUISSE



Werner ZÜLLIG  
General Manager

DATA LOGIC (NORWAY)



Kai MARTINSEN  
General Manager

IAL GEMINI (U.K.)



Peter CLARKE  
General Manager

PANDATA (HOLLAND)

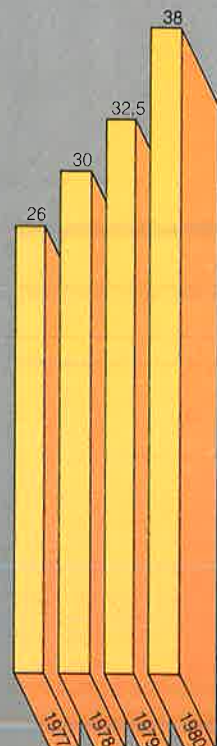


Aad JUTTENBROEK  
General Manager



From left to right:  
Harry KOELLIKER,  
Financial Director  
Jean PRADES,  
Marketing Director  
Christer UGANDER,  
President  
Jean RONCERAY,  
Administrative Director

EVOLUTION OF  
THE EUROPEAN DIVISION  
REVENUE,  
(in millions us dollars)



## INTERNATIONAL RESOURCES

The policy of decentralization due to the size of the European market must not cut into the potential and value of local software service teams. Every user must be assured that his project will be implemented under the same quality standards regardless of the country.

The consistency of the European Division's operations depends on the following principles:

- common working methods: all CAP GEMINI SOGETI companies apply identical management methods, whether in regard to budgeting, bookkeeping or project progress supervision. In the technical field, each subsidiary has been equipped with the full range of software tools and working methods developed within the Group itself. Examples of these include SIP ("Système Informatique pour le Programmeur", i.e. the Programmer's Development System), SDM (System Development Methodology), PMM (Project Management

Method), PAM (Project Auditing Methods), and others.

- pooling of know-how: one of CAP GEMINI SOGETI's prime concerns is the maintenance and re-use of knowhow accumulated by all of its subsidiaries. A computerized system has been set up to disseminate information concerning projects developed by all Group companies throughout the world. Specialized documentation informs subsidiaries with regard to new applications and new markets taking shape in the ever-changing computer world.

- international contacts: no documentation can replace human contacts. This is why managers and senior professionals of all Group companies meet regularly to exchange information, discuss their common concerns and decide on measures to enhance their cooperative activities and skills. Management Committees, annual "Rencontres" which bring together over 200 executives and engineers, and international training seminars, facilitate and propagate these contacts.

## LOCAL MARKETS:

One of the CAP GEMINI SOGETI's basic characteristics has always been its ability to offer services matching the specific nature of local requirements:

- in Europe, the Group's structure has built upon the geographic branch, including specialization by economic branch of those cities where CAP GEMINI SOGETI has several branches (Zürich, Brussels, etc.). The branch's very substantial autonomy in terms of management and sales prospecting is the policy which permitted CAP GEMINI SOGETI's spectacular growth since its founding.
- home-grown managers and professionals who are intimately acquainted with their country's language, customs and working habits are always best able to satisfy user requirements. Customer's ability to engage in direct dialogue with their CAP GEMINI SOGETI counterparts is a basic condition for satisfactory solution of technical problems and for guaranteed continuity of the development and maintenance of their systems.



## THE EUROPEAN COMMUNITIES "SAFIR" PROJECT:

350 full-time interpreters, 1500 free-lance interpreters, 60 international meetings daily during peak periods, 50 meeting rooms. These figures give some idea of the complexity of problems faced each day by the Commission's Conference Interpreter's Service. The service must allocate interpreters and space for the day's meetings, taking the number of participants, the languages involved, the subjects discussed and conference-room characteristics into account. In order to auto-

mate this complex process, CAP GEMINI SOGETI in Luxemburg is developing a computerized system including a database which will store 100 million characters when fully operational.

## THE OMEGA PROJECT:

The OMEGA Company, known worldwide for its time measurement projects, has contracted CAP GEMINI SOGETI for major achievements in the field of data display: a common team of OMEGA and CAP GEMINI SOGETI professionals have successfully implemented the real time information system of the Moscow airport. Other achievements, such as the system just installed at London's Liverpool Street Station have permitted optimal exploitation of the international cooperation within the Group, since a major part of the work has been performed by the UK subsidiary's specialists of CAP GEMINI SOGETI, who could benefit from already existing developments.

## MAIN BRANCHES BRANCH MANAGERS

### BELGIUM

#### CAP GEMINI BELGIUM

Brussels 1	Jean MILAN (acting)
Brussels 2	Albert ANCIAUX
Antwerp	Robert MALONGRE

### FEDERAL REPUBLIC OF GERMANY

#### CAP GEMINI DEUTSCHLAND

Düsseldorf	Wolfgang ROEMER (acting)
Berlin	Norbert VOGT
Munich	Christoph LANG

### THE NETHERLANDS

#### CAP GEMINI NEDERLAND

Rotterdam	Hans BOOM
Utrecht	Rob STARREVELD
Amsterdam	Bert STEENWINKEL
Training	Vrisou VRISOU VAN ECK
's-Hertogenbosch	Pierre VERLINDEN
PANDATA	
West 1	Piet ADRIAANSSE
West 2	Ab LUTGERHORST
East/South	Ton KNOETSCHKE
Training	Ab PAAP

### NORWAY

#### DATA LOGIC

Oslo	Kai MARTHINSEN
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### SPAIN

#### CAP GEMINI ESPANA

Madrid	Javier HERMOSILLA
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### SWEDEN

#### BRA

Products	Christer ABERG
Stockholm 1	Leif SANDBERG
Stockholm 2	Leif BJORDELL
Karlskoga	Lars Olof NORELL
Goteborg	Berndt OSMUND
Sundsvall	Lars SUNDBERG

### SWITZERLAND

#### CAP GEMINI SUISSE

Basel/Bern	Walter WEISS
Geneva	Daniel DIZERENS
Lausanne	John GIROD
Zurich 1	Erwin ESTERMANN
Zurich 2	Arthur HOLENWEIG

### UNITED KINGDOM

#### IAL-GEMINI

North	Gerald PLIMBLEY
South	Per HOVLAND
Special Systems	Phil BENTON

# USA

**CAP GEMINI SOGETI's entry into the world's biggest market took place in three stages, the last of which — integration of DASD — has been a decisive step in the Group's development.**

- 1978 was marked by the creation of CAP GEMINI Incorporated, a subsidiary with offices in the shadow of the Capitol Building in Washington, D.C. Staffed primarily by high-level professionals, this company specializes in consulting (master plans, DP resource planning, audits, systems design).

- In 1980, the Group decided to start distributing its own software products in the USA. Boston is the site of a CAP SOGETI LOGICIEL branch office, set up to carry out initial marketing operations and lay the groundwork for the sales network which will distribute the company's products.

- The crowning event, however, occurred on 22 January 1981, when DASD joined the CAP GEMINI SOGETI Group. Founded in Milwaukee in 1974 by the Marshall brothers, this firm — already numbering over 500 members — offers a full range of software services from its twenty branches dotting the map of the USA.

## DASD MIDWESTERN REGION



Fred SMOODY  
Vice-President

## DASD EASTERN REGION



John H. VANN  
Vice-President

## DASD WESTERN REGION



Roland J. McLARTY  
Vice-President

## DASD



Thomas PATTI  
Vice-President Marketing

## CAP GEMINI INC.



Léonard JACOBY  
President



From left to right:  
Daniel F. SCHROEDER,  
Chief Financial Officer, DASD  
Jack GOODSITT,  
Chief Legal Officer, DASD  
Martin MARSHALL,  
President, DASD



## DASD's BRANCHES

DASD currently numbers 20 branches. Milwaukee is home to the largest — 80 people — and the oldest, as the company was founded in that city. Next in line are the Los Angeles, Tampa and Chicago branches (with workforces of between 40 and 60), followed by Philadelphia, Kansas City and Baltimore.

When surveying the DASD network (the branches are listed below), spread from coast to coast, it is necessary to consider the vastness of the country and the area that each branch has to cover. In order to overcome certain problems of distance, DASD has established "satellite" offices linked to individual branches, raising the company's total number of sites to 28.

Like his European counterpart, a DASD branch manager — assisted by a sales engineer when necessitated by the size of the branch — is responsible for his organization's commercial success, technical quality of its services, management of its personnel and smooth administrative operation.

Branches are grouped under three regions: Eastern, Midwest and West. The Vice-Presidents in charge of these regions, together with Financial and Administrative Officer Dan Schroeder, Legal Officer Jack Goodsitt and Marketing Officer Tom Patti, all report directly to DASD President Martin Marshall.

### BRANCHES BRANCH MANAGERS

#### MIDWEST REGION

Chicago	Daniel J. SMITH
Des Moines	Jim A. MOORE
Detroit	Lawrence C. BONKOSKI
Indianapolis	David L. DENTON
Kansas City	Charles E. HUNT Marvin D. SHAUL
Milwaukee	Gerald J. QUARTANA
Minneapolis	J. Lee CRAWFORD
Saint-Louis	J. Lee CRAWFORD (acting)

#### EASTERN REGION

Atlanta	Robert J. MALPEDE
Baltimore/Washington	E. James DALE
Philadelphia	John K. GERDES
Pittsburgh	James D. SEETON
Tampa	Robert J. BLAKE, Jr.

#### WESTERN REGION

Dallas	Jerry L. VANN
Denver	Henry F. GREENE
Houston	Frank D. DUKE
Los Angeles	Roy A. JUDD
Portland	Raymond G. BROWN
San Francisco	Hartley A. CHELIN
Seattle	Gary C. CLEVELAND

## A DASD SPECIALTY: CONVERSIONS

Whenever a company decides to make significant changes in its DP system — whether in hardware, in software or both at the same time — its applications have to be converted, involving partial or total rewriting of its programs.

Thanks to its own methodology, its conversion tools and a long history of successful experience, DASD has become known as a conversion specialist making these operations a much less expensive and tedious affair for users.

DASD starts off each conversion with a full analysis of the situation of the applications involved. Then, for the actual program, file and operating-instruction conversion phase, DASD puts its own tools to work for automatic handling of a substantial proportion of conversion tasks. These tools, allied with a proven project management method, considerably increase the productivity of the technical staff assigned to the project, while commensurately cutting down on the time required for project completion. Finally, during the final stage, DASD works closely with the customer's DP personnel to get the converted applications up and running.

### Dasd's main conversion tools

Translators:  
RPG to COBOL  
NEAT/3 to COBOL  
COBOL to COBOL  
DIBOL to COBOL  
FORTRAN to FORTRAN  
CCP to CICS ...

### CAP GEMINI INC.

The year: 1977. Len Jacoby, Gerry Hice, Steve Turner, Bob Spencer, and Lon Rosenman, all American managers and experts working for CAP GEMINI SOGETI in Europe for about five years, are thinking about returning to the States. Their proposal for setting up a Group office on the other side of the Atlantic could not have been better timed: CAP GEMINI SOGETI has just decided to tackle the American market.

The next year witnesses the birth of CAP GEMINI Inc., which has since become a supplier to NASA, ITT, RCA, the National Bureau of Standards, the Library of Congress, the National Institute of Health and many other prestigious American organizations.



NUCLEAR FUEL SERVICES INC. has requested DASD to provide consulting services for project management, project design and software development for a material control and management information system. This system will provide stricter and more efficient control of radioactive material entering and leaving the NUCLEAR FUEL SERVICES facility, including raw material, in-process material, finished products and waste.

Civil and military air traffic safety requires the continuous availability of spare parts for aircraft.

PRATT & WHITNEY has called on DASD for the design and implementation of a new spare-parts management system.

This system provides PRATT & WHITNEY'S customers with real-time information on parts availability forecasts and current order status.

## THE DP PROFESSIONAL'S JOB WITH CAP GEMINI SOGETI



Computer service firms must face up to certain constraints inherent in expansion if they are to maintain their ability to serve a rapidly-developing market. And they can do this only thanks to the quality of their people, their competence and their ability to solve problems.

If the DP professional's tasks at CAP GEMINI SOGETI are fascinating, they can also be difficult. A professional's job often requires that he or she works within customers' teams: in their eyes, this engineer becomes the permanent representative of CAP GEMINI SOGETI, which is thus judged in the light of his performance.

To carry out their assignments, moreover, professionals must:

- integrate themselves into a working context which changes with each new project,
- react to customer demands which frequently do not allow the time for preparation customary with technical "desk jobs",
- adapt rapidly to highly diverse technical and human environments.

If they are to be able to face up to such qualitative demands, CAP GEMINI SOGETI employees must not only bank on their technical abilities, but also have what it takes to handle changes in situations and environments. This ability to change and adapt is the "knack" acquired by a DP professional in the exercise of his trade at CAP GEMINI SOGETI. To assist him, the Group offers:

- the unceasing assistance and backing of its supervisory staff,
- numerous informational services,
- substantial training potential offered by his company,
- a highly sophisticated set of methodologies,
- an administrative supervisory system monitoring the contractual relations between company and customer.

### INFORMATION

The CAP GEMINI SOGETI employee has access to a wide range of technical and general information and the strategy, goals and results of his company and the Group. This information is disseminated during frequent meetings and by means of published materials such as:

- the welcome brochure handed out to each new employee,
- in-house newsletters edited and distributed to all employees by each company,
- COGITAS, the internal communications magazine for the entire CAP GEMINI SOGETI Group, published monthly in French and English and distributed to all the Group's members,
- the Annual Report, published in French, English and German and also disseminated throughout the Group.

The CAP GEMINI SOGETI professional also has access to his company's libraries, where he may consult the most recent technical works, browse through professional journals and refer to the reports drawn up by his predecessors throughout their various assignments.

### SUPERVISORY ASSISTANCE

Throughout each of his assignments, an employee is assisted by the project technical officer and his Branch manager.

When handing the employee his job assignment, the Branch manager gives a precise description of the nature of the assignment and the environment in which it is to be carried out. Whenever necessary during the job itself, the employee is urged to request advice from his technical supervisors (project leader, branch or division technical officers) who will assist him in one of the following ways:

- joint situational analysis,
- assignment of an expert to the project,
- researching of appropriate technical information,
- establishment of contacts with another employee who has already encountered the same problem,
- scheduling of a meeting with the customer's supervisory personnel, etc.

### TRAINING

CAP GEMINI SOGETI offers its employees a wide range of training possibilities adapted to the specific needs of the DP service activity.

Aside from the supplementary training acquired in the field thanks to the diversity of the working experience and team-based activity, the employee takes part in training sessions and courses organized by the Group companies. These courses might be set up to meet the specific needs of a project, or fall within a program enabling each employee to participate in a series of course selected from a very complete, structured catalogue. An "individual training plan" is thus established for each employee on the basis of his or her experience and probable professional development. An individual training file also accompanies the employee throughout his career with CAP GEMINI SOGETI.

Three types of course are offered within the framework of the training plan: DP techniques, customer relations and software development and project management methodology.

Training operations represent a substantial investment for the Group. In France, for example, CAP SOGETI LOGICIEL and CAP SOGETI SYSTEMES devoted 10,512 days to this activity during 1980. The European companies together allocated a total of 8,699 days to training during the same period, at a cost approaching 5 % of their total wage bill.

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### WORKING METHODS

The CAP GEMINI SOGETI employee is guided in his work by a methodological tool for software development and project management. This methodology is absolutely necessary for project implementation, and the Group companies engage their responsibility in its use. Specifically, this tool makes it possible:

- to cut down on the risks inherent in the type of project to be handled through improved estimating. The standardization of working methods and the installation of management followup procedures yield statistics which permit a continuing enhancement of estimate accuracy.

## STRUCTURE OF THE WORKFORCE

- to increase the quality of services rendered through improved project design and through elimination of residual errors thanks to advanced debugging techniques.
- to aid in employee training by imbuing the DP professional with a sense of method, enabling him to avoid cut-and-try rehashing of familiar problems, and thereby to make easier use of methods specific to a given customer or application.
- to reduce implementation cost and time through greater professionalism in technical work and project management.

### ADMINISTRATIVE SUPERVISION

The employee's activity is situated within a precise administrative framework responding to the concerns of both the prime contractor and the DP expert tasked with project implementation.

The supervisory system installed in the CAP GEMINI SOGETI companies is supported by a number of documents, some of which are vehicles for exchanges with the customer:

- the "assignment order" stipulates the modalities of the job and the nature and duration of tasks to be performed.
- the "activity report" countersigned by the customer, provides information required for job supervision and is used for invoicing.
- the "trouble report", if needed, indicates any problems arising during project implementation, enabling operational questions to be settled as they arise.
- the "technical job report" is an internal document noting tasks completed during the month, discrepancies with the progress schedule, etc.
- finally, the "end-of-contract report" formalizes the contractual completion of operations while providing a technical summary of the finished job.

The two tables below provide a numerical description of the structure of the CAP GEMINI SOGETI workforce in 1980 - along with its development since 1977 - in accordance with two criteria:

- major activity type, i.e., "software" and "computer-based" services. It should be noted that the "software services" activity is carried out by four major units devoted exclusively to these operations: CAP SOGETI LOGICIEL and CAP SOGETI SYSTEMES (in France), EUROPE and USA (described in pages 28 to 31 and 34 to 37 of this Annual Report). Computer-based services, in turn, are performed in France by the DTES unit, presented on pages 32 and 33 of this Report.
- category of employee in the "software service" activity. Four categories are listed, each corresponding to a set of skills in software design and implementation exercised by these professionals.

These tables call for the following comment:

- Excluding the forty-odd persons in the holding companies, the total workforce at year's end (see

first table) increased from 2,121 in 1977 to 3,068 in 1980, representing 947 additional jobs in three years.

Deducting the 57 persons entering the Group when the Norwegian company DATA LOGIC joined CAP GEMINI SOGETI in 1980, it may be seen that the Group has created nearly **900 new jobs**, thereby increasing its workforce by approximately 45 %, during this period. Given the current shortage of DP professionals, this represents a substantial effort for promotion, selection and recruiting by all Group companies.

- The second table sheds light on the rapid increase in the proportion of engineers (relative to non-engineers) working in the software service activity. This proportion has risen from 47 % to 52 % in three years, representing an increase of **600 engineers** in absolute numbers.

To increase the number of its engineers in such proportions, the Group acts primarily to recruit young university graduates and to promote employees who have shown appropriate professional and human qualities.

**Distribution and development of employee categories of the CAP GEMINI SOGETI companies (excluding holding companies).**

ACTIVITY	at	at	at	at	Growth 1980/1979	
	31.12.77	31.12.78	31.12.79	31.12.80	Number	%
<b>Software services</b>						
France	1,062	1,185	1,468	1,674	206	+ 14 %
Europe	605	639	664	775	111	+ 16.7 %
USA *	6	14	21	33	12	+ 57 %
Other (Iran, etc.)	45					
<b>Subtotal software services activity</b>	<b>1,718</b>	<b>1,838</b>	<b>2,153</b>	<b>2,482</b>	<b>329</b>	<b>+ 15.3 %</b>
Computer-based services	403	479	535	586	51	+ 8.8 %
<b>Total operational companies</b>	<b>2,121</b>	<b>2,317</b>	<b>2,688</b>	<b>3,068</b>	<b>380</b>	<b>+ 14.1 %</b>

\* Excluding DASD, not integrated into CAP GEMINI SOGETI until 1981.

EMPLOYEE CATEGORY	1977	1978	1979	1980
Chief and senior systems engineers	10 %	11 %	10 %	9 %
Systems engineers	37 %	39 %	42 %	43 %
<b>Subtotal, engineers</b>	<b>47 %</b>	<b>50 %</b>	<b>52 %</b>	<b>52 %</b>
Analysts and programmer-analysts	31 %	28 %	24 %	25 %
Programmers	22 %	22 %	24 %	23 %
<b>Subtotal, non-engineers</b>	<b>53 %</b>	<b>50 %</b>	<b>48 %</b>	<b>48 %</b>

## 1980 FINANCIAL ANALYSIS AS COMPARED TO THE FIVE PREVIOUS YEARS

(all figures are stated in thousands of U.S. dollars)	1975	1976	1977	1978	1979	1980
(1) Consolidated revenues excluding taxes	49 995	55 316	64 817	81 841	100 704	128 362
(2) Gross cash-flow	5 016	4 969	5 909	9 416	14 386	18 328
(3) Net income	1 806	2 080	2 394	3 370	4 840	6 525
(4) Shareholder's equity (or minority interests) (*)	9 981	11 030	12 286	13 024	14 316	18 190
(5) Long-term debt	7 958	7 055	6 991	6 124	13 196	13 799
(6) Net assets (4) + (5)	17 939	18 085	19 277	19 148	27 512	31 989
(7) Fixed assets, net	14 856	15 775	17 403	19 099	18 733	18 323
(8) Working capital (3) + (6) - (7)	4 889	4 390	4 268	3 419	13 619	20 191
(9) Accounts receivable	13 179	14 853	16 721	20 785	24 971	30 582
(10) Total assets	42 520	42 774	46 742	52 032	65 115	76 967
<b>Main financial ratios:</b>						
• Shareholder's equity to total assets (4)/(10)	0.23	0.26	0.26	0.25	0.22	0.24
• Long-term debt to shareholder's equity (5)/(4)	0.80	0.64	0.57	0.47	0.92	0.76
• Net assets to fixed assets (6)/(7)	1.21	1.15	1.11	1.00	1.47	1.75
• Receivables to sales (9)/(1)	0.26	0.27	0.26	0.25	0.25	0.24
<b>Net income to shareholder's equity (3)/(4)</b>	<b>18.1 %</b>	<b>18.9 %</b>	<b>19.5 %</b>	<b>25.9 %</b>	<b>33.8 %</b>	<b>35.9 %</b>
<b>Return on net asset (3)/(6)</b>	<b>10.1 %</b>	<b>11.5 %</b>	<b>12.4 %</b>	<b>17.6 %</b>	<b>17.6 %</b>	<b>20.4 %</b>
<b>Gross cash flow to revenue (2)/(1)</b>	<b>10.0 %</b>	<b>9.0 %</b>	<b>9.1 %</b>	<b>11.5 %</b>	<b>14.3 %</b>	<b>14.3 %</b>
<b>Net income to revenue (3)/(1)</b>	<b>3.6 %</b>	<b>3.8 %</b>	<b>3.7 %</b>	<b>4.1 %</b>	<b>4.8 %</b>	<b>5.1 %</b>
Income taxes	1 773	1 154	1 471	2 580	4 217	6 606
Employees profit sharing	266	200	358	579	1 117	1 620
Dividends distributed to shareholders	358	389	526	756	1 129	1 655
Share capital (nominal value: 100 F/share)	2 986	2 990	7 522	7 522	7 522	7 522
Earnings per share (in US \$)	13.4	15.4	7.0 (**)	9.9	14.2	19.2

(\*) Before profit allocation for the year

(\*\*) Number of shares increased from 135 170 to 340 000 (incorporating the reserves)

Each year since 1975 (the first financial year following the merger of CAP and SoGETI), CAP GEMINI SOGETI publishes the Group's consolidated balance-sheet and statement of income. The table above summarizes the changes - **with constant structures** - in the chief parameters reflecting overall management: revenues, income, significant balance-sheet amounts, customary ratios, etc.

An examination of this table leads to the following main observations:

- In five years, the CAP GEMINI SOGETI Group has increased:
  - its revenues by 2.6 times (+ 20.8 % as an annual average)
  - its net income by 3.6 times (+ 29.3 % as an annual average)
  - the amount of taxes paid to the government by 3.7 times
  - the amount of its working capital by 4.1 times
  - the amount of dividends paid to its shareholders by 4.6 times
  - the amount of employee profit sharing (France) by 6.1 times
- During the same period, accounts receivable have increased by 2.3 times only, long-term debt by 1.7 times and net fixed assets by 1.2 times.
- The shareholders' -equity-to-total-assets ratio remains virtually unchanged at approximately 25 %, reflecting the constancy of the balance-sheet structure in spite of the strong growth shown during this period.

- The long-term-debt-to-shareholders' -equity ratio has always remained below the generally-accepted maximum value (i.e., 1), its 1979 increase reflecting CAP GEMINI SOGETI's decision at that time to assemble the resources required for acquisition of new companies (DATA LOGIC was purchased during 1980, and the acquisition of DASD became effective in January 1981).

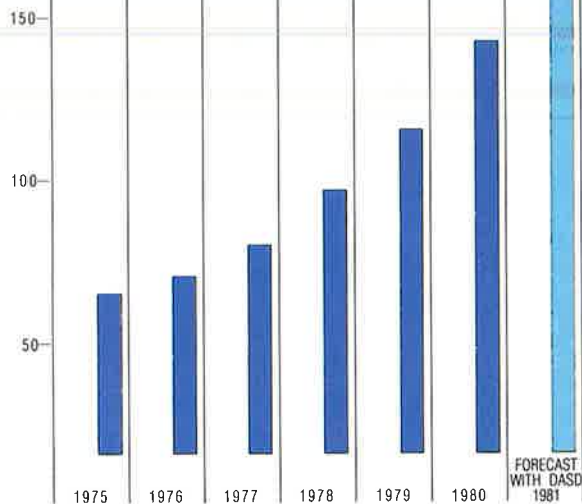
- Accounts receivable very steadily represent one-quarter of the year's revenues - that is, three months' revenues - with a very slight but sustained improvement since 1976.

- The net-income-to-shareholders' -equity ratio and return on net assets have doubled during this period, rising from 18 % to 36 % and from 10 % to 20 %, respectively.

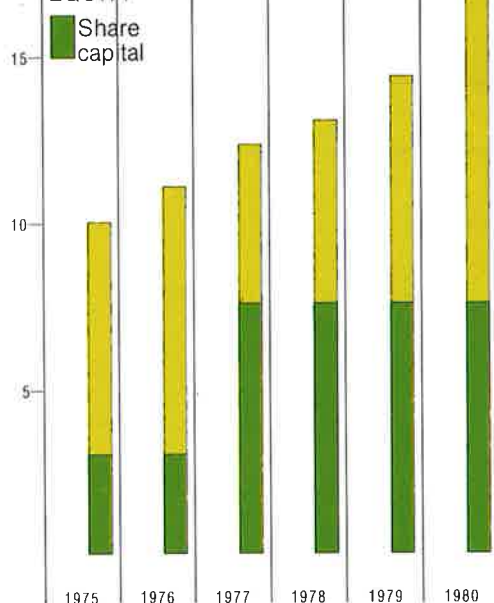
- In six years, CAP GEMINI SOGETI has paid close to 18 millions dollars in corporate income taxes, for an average of 3 millions dollars annually. In a recent issue (No. 2308, dated 23 February 1981), the economic weekly « Valeurs Actuelles » ranked CAP GEMINI SOGETI in 120th place in its list of « France's 150 Biggest Taxpayers ».

- For the first time, the net-income-to-revenue ratio exceeded 5 % in 1980. This is still far from the performance achieved during four years' running (from 1971 to 1974) by the former SoGETI - 10 % after taxes - but it is still a level which probably places CAP GEMINI SOGETI ahead of its major European competitors.

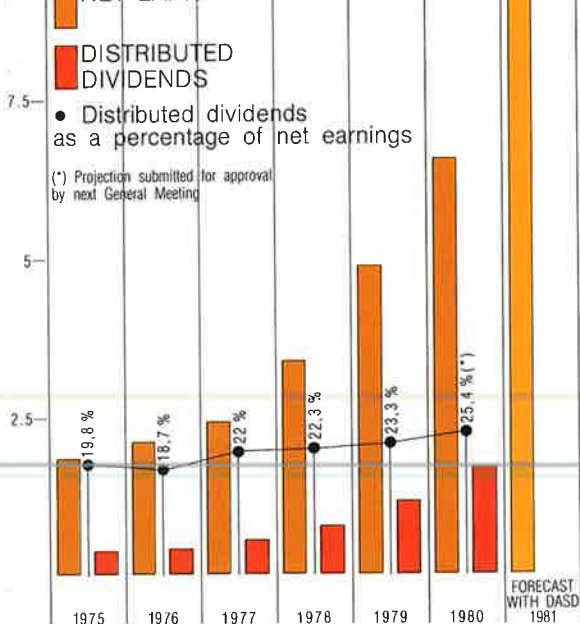
# EVOLUTION OF CONSOLIDATED REVENUE



# EVOLUTION OF SHAREHOLDER'S EQUITY



# CONSOLIDATED NET EARNINGS



# Breakdown of 1980 "software services" revenues realized in Europe, by major sector of economic activity

Major economic sector	1976 (France only)	1980 Distribution (%)		
		France	Other European countries	Total
• Government	24 %	19	20	19
• Banking and insurance	16 %	16	13	15
• Other services	9 %	14	16	15
• Manufacturing: mechanical, auto, aircraft, construction, electricity, chemicals	18 %	31	24	28
• Other Manufacturing: (incl. DP industry)	24 %	18	25	21
• Primary sector: agriculture, energy, mining, etc.	9 %	2	2	2
<b>Total</b>	<b>100 %</b>	<b>100</b>	<b>100</b>	<b>100</b>

Several observations are in order concerning this table:

- Roughly speaking, CAP GEMINI SOGETI's revenues are divided into two equal portions: 50 % from industry and 50 % from the service sector. This is true for both "France" and "other European countries".
- The only notable difference between revenues for "France" and for "other European countries" relates to the distribution of industry's contribution between transforming industries (better "served" by CAP GEMINI SOGETI in France) and other manufacturing. This contradicts a prevalent notion that CAP GEMINI SOGETI does more work with the DP industry in France than elsewhere. In fact, the contrary is true.
- Another preconceived idea evidently contradicted by this table: the share of revenues obtained by CAP GEMINI SOGETI from government agencies and public services is lower in France than in the other European countries combined (the exact percentages are 18.6 % for France and 20.1 % for other countries).
- In comparison with the distribution indicated in the 1976 Annual Report (referring to France only), a strong increase in CAP GEMINI SOGETI's penetration in the transformation industry and "other services" sectors may be observed, together with a falloff in the banking and insurance sector and a heavy decline in the percentage achieved in the primary sector, the "other manufacturing" sector (primarily DP hardware manufacturers) and, finally, the "government" sector which, in spite of the "visibility" of certain very large projects entrusted to CAP SOGETI LOGICIEL, now represents less than 19 % of "software services" revenues realized in France by the Group companies (38 % for CAP SOGETI LOGICIEL, 7 % for CAP SOGETI EXPLOITATION and 2 % for CAP SOGETI SYSTEMES).



# 1980 CONSOLIDATED FINANCIAL STATEMENTS

## CONSOLIDATED BALANCE SHEET (in thousands of U.S. dollars)

ASSETS	1979	1980	LIABILITIES AND SHAREHOLDERS' EQUITY	1979	1980
Cash	13 560	17 312	Bank borrowings	618	48
Accounts and notes receivable	24 971	30 582	Current portion of long term debt & short term loans	3 513	2 347
Inventories	108	15	Accounts and notes payable	11 980	13 526
Taxes (Note VII)	2 518	2 581	Accrued liabilities (Note XII)	11 602	17 302
Prepaid expenses (Note VIII)	4 590	6 349	Taxes (Note XI)	5 050	5 230
Other current assets	635	1 805	<b>Current liabilities</b>	<b>32 763</b>	<b>38 453</b>
<b>Current assets</b>	<b>46 382</b>	<b>58 644</b>	Long term debt (Note X)	10 366	9 864
Goodwill (Note IV)	7 293	7 585	Employee profit sharing fund	2 433	3 556
Equity investment in affiliates (Note V)	1 200	1 991	Other non current liabilities	397	379
Unconsolidated investments (Note VI)	639	666	<b>Non current liabilities</b>	<b>13 196</b>	<b>13 799</b>
Other non current assets	2 004	931	<b>Minority interests</b>	<b>257</b>	<b>249</b>
Property, plant and equipment (Note III)	5 693	6 232	Common stock 340 000 shares of FF 100 each	7 522	7 522
Other fixed assets (Note III)	1 904	918	Retained earnings at beginning of year	6 537	10 419
<b>Non current assets</b>	<b>18 733</b>	<b>18 323</b>	Shareholders' equity (Note IX)	14 059	17 941
<b>TOTAL ASSETS</b>	<b>65 115</b>	<b>76 967</b>	Net income for the year	4 840	6 525
Guarantees given by third parties (Note XIII)	1084	929	<b>Total shareholders' equity and net income</b>	<b>18 899</b>	<b>24 466</b>
			<b>TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY</b>	<b>65 115</b>	<b>76 967</b>
			Commitments and contingent liabilities (Note XIII)	3 770	2 871



**CONSOLIDATED STATEMENT OF INCOME**  
(in thousands of U.S. dollars)

	1979		1980	
REVENUE		%		%
Fees from services rendered	99 211	98.5	125 121	97.5
Manufacturing of program-products (Note XV)	224	0.2	338	0.3
Other revenue (Note XVI)	1 269	1.3	2 903	2.2
<b>TOTAL REVENUE</b> (note XIV)	<b>100 704</b>	<b>100.0</b>	<b>128 362</b>	<b>100.0</b>
OPERATING EXPENSES				
Purchases	1 549	1.5	2 210	1.7
Wages and salaries	63 752	63.3	81 876	63.8
General and administrative expenses	19 969	19.8	24 371	19.0
Interest expense	1 770	1.8	1 958	1.5
Depreciation	2 201	2.2	2 510	2.0
<b>TOTAL OPERATING EXPENSES</b>	<b>89 241</b>	<b>88.6</b>	<b>112 925</b>	<b>88.0</b>
<b>NET OPERATING INCOME</b>	<b>11 463</b>	<b>11.4</b>	<b>15 437</b>	<b>12.0</b>
Employees profit sharing	- 1 117	- 1.1	- 1 620	- 1.3
Other profits and losses	- 940	- 0.9	- 752	- 0.6
Income taxes	- 4 217	- 4.2	- 6 606	- 5.1
Results of companies accounted for on the equity method	- 236	- 0.3	149	0.1
Minority interests	- 113	- 0.1	- 83	-
<b>NET INCOME</b>	<b>4 840</b>	<b>4.8</b>	<b>6 525</b>	<b>5.1</b>
Gross cash-flow	14 386	14.3	18 328	14.3

**REPORT OF THE AUDITORS ON THE CONSOLIDATED FINANCIAL STATEMENTS**


We have examined the consolidated financial statements of the CAP GEMINI SOGETI Group for the year ended December 31, 1980. Our examination was made in accordance with generally accepted auditing standards.

In our opinion, the consolidated financial statements present fairly the financial position of the Group at December 31, 1980 and the results of its operations and source and application of funds for the year then ended, in accordance with the recommendations of the International Accounting Standards Committee.

April 10, 1981

  
Jacques BOURGUIGNON.

  
McLINTOCK MAIN LAURENTZ & Co

  
Bernard PUGNIET.  
Commissaires aux Comptes inscrits.  
Compagnie de Grenoble

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 1980

The consolidated financial statements have been prepared in accordance with the statements of accounting practice issued by the International Accounting Standards Committee (I.A.S.C.) and in force at the relevant time. The Group was advised by McLintock Main Lafrentz & Co as to the adoption of these accounting standards which became effective within the Group on January 1, 1977.

In addition to the verification work performed by the statutory auditors of each company in respect of the year ended December 31, 1980 the financial statements of the principal companies in the Cap Gemini Sogeti Group have been examined by McLintock Main Lafrentz & Co.

No adjustments have been made to take account of the effects of inflation.

All amounts indicated below are expressed in U.S. dollars and have been rounded to the nearest thousand dollars.



## I - ACCOUNTING POLICIES

### a/Consolidation

#### Basis of consolidation:

The consolidated financial statements include the financial statements of the company and all those operating subsidiaries in which Cap Gemini Sogeti owns, directly or indirectly, a controlling interest.

Companies in which the Group owns an interest ranging from 20 % to 50 %, and in which it has either an option to acquire a controlling interest or a substantial degree of management control, have been accounted for on the equity basis.

All other investments have been accounted for as unconsolidated investments.

Changes in the composition of the Group in 1980:

- Acquisition of 100 % of Data Logic (Norway),
- Investment in Cap Sogeti-Saisie increased from 90.4 % to 97.2 %,
- Investment in Gemini Inc. increased from 89.5 % to 91.8 %,
- Investment in Groupe Bossard S.A. increased from 48 % to 49.2 %,
- Disposal of 99.92 % of Cap Sogeti-Produits.

#### Consolidation adjustments:

The accounts of certain subsidiaries do not conform with the statements of accounting practice issued by the I.A.S.C. because of the legislation of the countries concerned. Appropriate adjustments have been made on consolidation in order to present the Group accounts on a uniform basis.

#### Intercompany sales and profits:

Transactions between consolidated companies and unrealised profits on such transactions have been eliminated on consolidation.

### b/Translation of foreign currencies

Assets and liabilities in foreign currencies and profits and losses of foreign subsidiaries are converted into French francs at the rates of exchange ruling at the balance sheet date. Profits or losses on translation are not included in the profit and loss account but are carried to consolidated reserves. For the purpose of the English language version of this report, all amounts are expressed in U.S. \$000's using the translation rate of F. 4.52 = \$ 1 for both 1980 and 1979.

### c/Taxation

Deferred taxation is provided through the statement of income in respect of timing differences arising because items of expense or income are recognised for tax purposes in periods different from those in which they enter the statement of income (in particular, in France, provisions for vacation pay and employee profit sharing).

Credit is taken for deferred income tax benefits only in those companies in the Group where profits are expected to be earned in the year ending December 31, 1981.

### d/Property, plant and equipment

Property, plant and equipment is stated in the balance sheet at cost. Depreciation thereon is calculated on the "straight line" method over the estimated useful lives of the assets concerned. Fixed assets acquired under long term hire purchase contracts are recorded at their market value as at the date of the contract and are written off over their estimated useful lives.

Depreciation is based on the following asset lives:

- Buildings.....30 years
- Fittings .....10 years
- Equipment.....7 years
- Vehicles.....5 years

### e/Intangible fixed assets

"Other fixed assets" include program-products, either acquired or manufactured by the Group, and are stated at cost. In order to be capitalised, expenditure on program-products manufactured by the Group must comply with the following criteria:

- It must be represented by an increase in the economic capacity of the company,
- It must constitute a marketable asset.

Expenditure on research is written off as incurred. Program-products performed under contracts signed in France with the "Délégation à la Recherche Scientifique et Technique" are amortized over the duration of the contract, for the part financed by this organization. Other program-products are amortized over a period not exceeding 5 years.

Goodwill represents the difference at the date of acquisition between the purchase price of investments in consolidated companies and the Group's share of the net assets of the companies concerned. It has been determined taking into account the valuation of intangible assets at the date of inclusion in the Group and is amortized over a period of from 10 to 40 years.

### f/Inventories

Inventories and work in progress are stated at cost, this being lower than net realisable value

### g/Revenue recognition on contracts

Services relating to fixed price contracts which extend over more than one financial year are valued at their sale price reduced by a percentage representing the average gross margin realised by the company. Unbilled services rendered by the balance sheet date are included in other receivables.

Revenue on time and materials contracts is credited to income immediately the service is rendered.

### II - EVENT SUBSEQUENT TO THE BALANCE SHEET DATE

On January 22, 1981, Cap Gemini Sogeti S.A. acquired 100 % of the capital of an American company DASD Corporation whose registered office is in Milwaukee, Wisconsin. The cost amounted to approximately U.S. \$ 12 millions, payable in three annual instalments. DASD, whose accounting year ends on April 30, will realise sales for its current year of approximately U.S. \$ 22 500 000. For the following accounting year, sales of U.S. \$ 27 millions are forecast.

### III - FIXED ASSETS

	In thousands of U.S. Dollars		
	1979	1980	Variance
<b>• Property, plant and equipment</b>			
<b>• Land</b>			
Gross amount	312	239	- 73
Depreciation	-	-	-
Net amount	312	239	- 73
<b>• Buildings</b>			
Gross amount	2 460	1 892	- 568
Depreciation	393	332	- 61
Net amount	2 067	1 560	- 507
<b>• Equipment</b>			
Gross amount	3 338	4 859	+ 1 521
Depreciation	1 665	2 363	+ 698
Net amount	1 673	2 496	+ 823
<b>• Fittings</b>			
Gross amount	2 916	3 204	+ 288
Depreciation	1 275	1 267	- 8
Net amount	1 641	1 937	+ 296
Total	5 693	6 232	+ 539
<b>• Other fixed assets</b>			
Gross amount	4 059	3 596	- 463
Depreciation	2 155	2 678	+ 523
Net amount	1 904	918	- 986

This heading includes the following at net written down value:

<b>• Program-products performed under DGRST contracts</b>	509	240
<b>• Other program-products</b>		
• France	626	618
• Europe	697	44
• Other	72	16
Total	1 904	918

### IV - GOODWILL

	In thousands of U.S. Dollars		
	1979	1980	Variance
Gross	8 339	8 847	+ 508
Less: Amortization	- 1 046	- 1 262	+ 216
Net	7 293	7 585	+ 292

The above variance arises partly from the acquisition of Data Logic, and partly from the disposal of Cap Sogeti-Produits.

### V - EQUITY INVESTMENT IN AFFILIATES

This represents the value at the year-end, using the equity method, of the investment owned by CAP GEMINI SOGETI S.A. in GROUPE BOSSARD S.A., and takes into account the increase in capital of GROUPE BOSSARD S.A. during the year.

### VI - UNCONSOLIDATED INVESTMENTS

	In thousands of U.S. Dollars	
	1979	1980
These include:		
• Shareholdings over 50 % (dormant companies)	46	46
• Shareholdings ranging from 20 % to 50 % (with neither an option to acquire a controlling interest nor a substantial degree of management control)	264	264
• Shareholdings below 20 %	372	390
• Less amortization	- 43	- 34
Net	639	666

## VII - TAXES - RECOVERABLE

	In thousands of U.S. Dollars	
	1979	1980
These include:		
• Income taxes	216	125
• Taxes other than income taxes	527	610
• Deferred tax benefits in respect of timing differences	929	1 719
• Deferred tax benefits in respect of losses carried forward	846	127
Total	<b>2 518</b>	<b>2 581</b>

Deferred taxes on the fiscal losses carried forward by certain companies have not been taken into consideration. Future tax savings which could result amount to \$ 516 000

## VIII - PREPAID EXPENSES

	In thousands of U.S. Dollars	
	1979	1980
Included under this heading are:		
Unbilled work performed under time and materials contracts and work performed under contracts extending over more than one financial year and not yet billed	3 749	5 294
Expressed as a percentage of turnover	3.7%	4.1%

## IX - SHAREHOLDERS' EQUITY

	In thousands of U.S. Dollars	
	1979	1980
• Issued share capital of CAP GEMINI SOGETI S.A.		7 522
• Reserves of CAP GEMINI SOGETI S.A.		4 233
• Post acquisition reserves of consolidated subsidiaries and of investment accounted for on the equity method, attributable to the shareholders of CAP GEMINI SOGETI S.A.		6 186
Total		<b>17 941</b>

Changes in shareholders' equity are analyzed as follows:

• Balance at January 1	14 059
• Retained attributable profit of CAP GEMINI SOGETI and its subsidiaries for 1979	3 711
• Other movements in consolidated reserves:	
- Exchange gains (Note I.b)	120
- Adjustments due to changes in composition of the Group	51
• Balance at December 31, 1980	<b>17 941</b>

The share capital of CAP GEMINI SOGETI S.A. is comprised of 340 000 shares of F 100 each, issued and fully paid.

## X - LONG TERM DEBT

	In thousands of U.S. Dollars	
	1979	1980
These include:		
• Crédit National	1 403	1 093
• Other long term loans:		
- France	8 046	7 064
- Outside France	917	1 707
	8 963	8 771
Total	<b>10 366</b>	<b>9 864</b>

Long term debt includes loans contracted by Group companies and denominated in their national currencies. At December 31, 1980, the average rate of interest stood at 10.6 %. Out of a total of loans amounting to \$ 9 864 000, \$ 6 239 000 relate to notes renewable quarterly. These funds can therefore be drawn in accordance with companies' requirements.

Redemption dates	Long term debt	Current portion of long term debt
1981		1 921
1982	4 084	
1983	1 857	
1984	1 289	
1985	1 298	
1986	183	
Subsequent years	1 153	
Total	<b>9 864</b>	<b>1 921</b>

Mortgage guarantees have been given in respect of \$ 1 482 000 of the total of the above loans outstanding at December 31, 1980.

## XI - TAXES - PAYABLE

	In thousands of U.S. Dollars	
	1979	1980
These include:		
• Income taxes	3 293	2 931
• Taxes other than income taxes	1 757	2 299
Total	<b>5 050</b>	<b>5 230</b>

With effect from January 1, 1980 CAP GEMINI SOGETI S.A. and those of its French subsidiaries in which it holds at least 95 % are able to benefit from the terms of Article 209 (6) of the French General Tax Code for a period of five years, and will therefore be able to combine the fiscal results of those companies.

## XII - ACCRUED LIABILITIES

These represent expenses attributable to the year ended December 31, 1980, but not yet due at that date. They include principally:

	In thousands of U.S. Dollars	
	1979	1980
• Accrual for vacation pay	2 794	3 917
• Value added tax on trade receivables (due on collection)	2 729	3 550

## XIII - CONTINGENT LIABILITIES AND GUARANTEES

	In thousands of U.S. Dollars	
	1979	1980
• Contingent liabilities (excluding secured loans, see note X)	1 364	1 388
• Guarantees given to the company or its subsidiaries	1 084	929

#### XIV - CONSOLIDATED REVENUE

	In thousands of U.S. Dollars	
	1979	1980
Consulting services - France	61 032	79 861
Data processing - France	9 032	9 613
Total revenue - France	70 064	89 474
Consulting services - Outside France	33 595	43 228
Less: Intercompany transactions	2 955	4 340
<b>Total revenue consolidated</b>	<b>100 704</b>	<b>128 362</b>

#### XV - MANUFACTURING OF PROGRAM-PRODUCTS

	In thousands of U.S. Dollars	
	1979	1980
Program-products manufactured in France	224	338

Program-products manufactured during the 1980 fiscal year, but which do not meet the Group criteria for capitalisation (See Note I.e.) are written off as an expense.

#### XVI - OTHER REVENUE

	In thousands of U.S. Dollars	
	1979	1980
These include:		
• Interest	384	702
• Miscellaneous	885	2 201
<b>Total</b>	<b>1 269</b>	<b>2 903</b>

#### XVII - CONSOLIDATED STATEMENTS OF SOURCE AND APPLICATION OF FUNDS

	In thousands of U.S. Dollars	
	1979	1980
<b>SOURCE OF FUNDS</b>		
<b>Funds from operations</b>		
Net income	4 840	6 525
Depreciation of property, plant and equipment	1 987	2 282
Depreciation of goodwill	214	228
<b>Total</b>	<b>7 041</b>	<b>9 035</b>
<b>Funds from other sources</b>		
Increase in long term debt	7 093	1 419
Increase in employee profit sharing fund	1 117	1 620
Increase (decrease) in other non-current liabilities	397	( 18)
<b>Total</b>	<b>8 607</b>	<b>3 021</b>
<b>TOTAL SOURCE OF FUNDS</b>	<b>15 648</b>	<b>12 056</b>
<b>APPLICATION OF FUNDS</b>		
Dividends paid	756	1 129
Changes in shareholders' equity	274	( 171)
Decrease in minority interests	1 049	8
Increase in property, plant and equipment and other fixed assets	1 834	2 100
Reclassification of long-term debt into short term	1 535	2 418
Increase in working capital	10 200	6 572
<b>TOTAL APPLICATION OF FUNDS</b>	<b>15 648</b>	<b>12 056</b>

#### XVIII - AFFILIATED COMPANIES

I - Consolidated subsidiaries	%
<b>Subsidiaries of CAP GEMINI SOGETI S.A.</b>	
CAP SOGETI EXPLOITATION	100
CAP SOGETI FORMATION	92
CAP SOGETI L.G.D.	100
CAP SOGETI LOGICIEL	100
CAP SOGETI SAISIE	97
CAP SOGETI SYSTEMES	100
S.E.S.I.	100
SORINFOR	100
CAP EUROPE S.A.	100
DATA LOGIC (Norway)	100
GEMINI COMPUTER SYSTEMS INC.	92
<b>Joint subsidiary of CAP GEMINI SOGETI S.A. and CAP EUROPE S.A.</b>	
CAP GEMINI SWITZERLAND	98
<b>Subsidiaries of CAP EUROPE S.A.</b>	
B.R.A. (Sweden)	100
CAP GEMINI BELGIUM	100
CAP GEMINI BERLIN	100
CAP GEMINI SPAIN	100
CAP GEMINI NETHERLANDS	100
CAP GEMINI LUXEMBOURG	100
<b>Subsidiary of GEMINI COMPUTER SYSTEMS Inc.</b>	
CAP GEMINI GERMANY	100
CAP GEMINI U.S.A.	100
CAP GEMINI SOGETI (U.K.)	100
I.A.L. GEMINI	51
I.A.L. GEMINI COMPUTER SYSTEMS	51
PANDATA (Netherlands)	100
<b>II - Investments accounted for on the equity basis</b>	<b>%</b>
GRUPE BOSSARD S.A. and its subsidiaries	49





**CAP GEMINI SOGETI**

## PRINCIPAL LOCATIONS

### Holding Company

**Head office : Grenoble**

6 boulevard Jean Pain BP 206 - 38005 Grenoble Cedex - ☎ 33 (76) 44 82 01

**Finance : Lyon**

241 rue Garibaldi - 69422 Lyon Cedex 3 - ☎ (7) 860 43 10

**General Management : Paris**

17, avenue George V - 75008 Paris - ☎ 33 (1) 723 61 85

### in France

CAP SOGETI EXPLOITATION	Paris	107 rue Réaumur	75002 PARIS	33 (1) 233 10 47
	Lyons	241 rue Garibaldi	69422 LYON CEDEX 3	33 (7) 860 77 43
CAP SOGETI FORMATION	Paris	92 boulevard du Montparnasse	75682 PARIS CEDEX 14	33 (1) 320 13 81
	Paris	83-85 bd Vincent Auriol	75013 PARIS	33 (1) 584 15 40
CAP SOGETI LOGICIEL	Paris	5 rue Louis Lejeune	92128 MONTRouGE CEDEX	33 (1) 657 13 31
	Grenoble	6 boulevard Jean Pain BP 206	38005 GRENOBLE CEDEX	33 (76) 44 82 01
	Lannion	28 avenue du Général de Gaulle	22300 LANNION	33 (96) 37 72 80
	Rennes	107 avenue de Crimée	35100 RENNES	33 (99) 51 95 99
	Toulouse	1 chemin du pigeonier de la Cépière	31100 TOULOUSE	33 (61) 41 30 40
CAP SOGETI SAISIE	Paris	21 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
CAP SOGETI SYSTÈMES	Paris	92 boulevard du Montparnasse	75682 PARIS CEDEX 14	33 (1) 320 13 81
	Paris	14-20 rue Leriche	75738 PARIS CEDEX 15	33 (1) 539 22 25
	Bordeaux	31 rue de l'Ecole Normale	33000 BORDEAUX	33 (56) 02 00 57
	Grenoble	6 boulevard Jean Pain BP 206	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	69422 LYON CEDEX 3	33 (78) 60 90 03
	Marseilles	90 avenue de Mazargues	13008 MARSEILLE	33 (91) 76 52 91
	Montpellier	Allée Jules Milhau, Immeuble le Triangle	34000 MONTPELLIER	33 (67) 88 13 50
	Mulhouse	12 rue du 17 Novembre	68100 MULHOUSE	33 (89) 46 40 50
	Nancy	10 rue Raymond Poincaré	54000 NANCY	33 (83) 32 33 28
	Nantes	10 rue Mondésir	44000 NANTES	33 (40) 20 00 44
	Orléans	19 rue de la République	45000 ORLÉANS	33 (38) 53 86 50
	Rennes	107 avenue de Crimée	35100 RENNES	33 (99) 51 95 99
	Rouen	Palais des Congrès, rue des Carmes	76000 ROUEN	33 (35) 89 27 88
	Toulouse	1 chemin du pigeonier de la Cépière	31100 TOULOUSE	33 (61) 40 55 58
SESI	Lyons	241 rue Garibaldi	69422 LYON CEDEX 3	33 (78) 60 77 43
	Grenoble	21 bd des Déportés du 11 Novembre 1943	38100 GRENOBLE	33 (76) 87 87 17
	Marseilles	376 avenue du Prado	13008 MARSEILLE	33 (91) 71 25 68
	Montpellier	13 rue du Rang	34000 MONTPELLIER	33 (67) 92 82 69
	Salon	441 bd de la République	13300 SALON	33 (90) 56 59 32
SORINFOR	Paris	36 rue de Vouillé	75015 PARIS	33 (1) 533 78 80

## in Europe

BELGIUM	CAP GEMINI Belgium	Brussels	49 rue du Châtelain	1050 BRUXELLES	32 (2) 649 96 40
		Antwerp	Mechelsesteenweg 163	2000 ANTWERPEN	32 (31) 30 07 02
		Liège	10 quai Churchill	4020 LIÈGE	32 (41) 42 74 63
DENMARK	BRA (see Sweden)	Farum	Hirsemarken 3	3520 FARUM	45 (2) 95 55 05
FINLAND	BRA (see Sweden)	Helsinki	Henry Fordinkatu 5 c	00150 HELSINKI 15	358 (0) 63 42 45
NETHERLANDS	PANDATA	Rijswijk	366 Sir Winston Churchilllaan	2285 SJ RIJSWIJK	31 (70) 94 93 25
		Eindhoven	Stationsplein 39	5611 BC EINDHOVEN	31 (40) 43 95 18
	CAP GEMINI Nederland	Utrecht	Jutfaseweg 205	3522 HR UTRECHT	31 (30) 89 35 44
		Amersfoort	Stadsring 141	3817 BA AMERSFOORT	31 (33) 62 18 14
		's-Hertogenbosch	Tinnegietierstraat 4	5232 BM 's-HERTOGENBOSCH	31 (73) 41 87 55
		Rotterdam	Westblaak 96	3012 KM ROTTERDAM	31 (10) 11 02 20
		Oslo	Torggt. 5	OSLO 1	47 (2) 33 02 56
		Bergen	Nygérdsgt. 2	5000 BERGEN	47 (5) 23 29 40
		Trondheim	Kjøpmanngt. 8	7000 TRONDHEIM	47 (75) 33 765
		Skien	Telemarksgt. 8	3700 SKIEN	47 (35) 27545
SPAIN	CAP GEMINI España	Madrid	58 Nuñez de Balboa	MADRID 1	34 (1) 431 43 04
SWEDEN	BRA	Stockholm	Bredängstorget 1-Box 2054	12702 SKÄRHOLMEN	46 (8) 88 03 00
		Göteborg	Artillerigatan 25	415.02 GÖTEBORG	46 (31) 25 03 40
		Karlskoga	Kungsvägen 33	69100 KARLSKOGA	46 (586) 503 80
		Sundsvall	Storgatan 10	85230 SUNDSVALL	46 (60) 12 55 40
		Geneva	8c avenue de Champel	1211 GENÈVE 12	41 (22) 47 88 00
SWITZERLAND	CAP GEMINI Suisse	Basel	Lindenhofstrasse 7	4052 BASEL	41 (61) 23 41 41
		Bern	Laenggass-Strasse 7	3012 BERN	41 (31) 23 71 72
		Lausanne	14 avenue d'Ouchy	1006 LAUSANNE	41 (21) 26 31 33
		Zürich	Brauerstrasse 60	8004 ZÜRICH	41 (1) 241 06 70
		London	133 High Street	YIEWSLEY, MIDDX UB7 7QL	44 (89) 54 44 022
UNITED KINGDOM	IAL-GEMINI Ltd.	Manchester	80 Manchester Road	ALTRINCHAM WA 14 4PL	44 (61) 941 19 22
WEST GERMANY	CAP GEMINI Deutschland	Düsseldorf	Grafenberger Allee 30	4000 DÜSSELDORF 1	49 (211) 67 50 05
		Berlin	Kurfürstendamm 92	1000 BERLIN 31	49 (30) 323 80 91
		Münich	Lindwurmstrasse 117	8000 MÜNCHEN 15	49 (89) 725 30 25

## in the United States

	CAP GEMINI Inc.	Washington DC	301 Maple Avenue West	VIENNA Virginia 22180	1 (703) 938 22 07
	CAP SOGETI LOGICIEL	Boston	200 Clarendon Street	BOSTON 02116	1 (617) 536 87 81
	DASD Corporation	Milwaukee	9045 N. Deerwood Drive	MILWAUKEE, WI 53223	1 (414) 355 34 05
		Atlanta	2872 Woodcock Bd, Suite 317	ATLANTA, GA 30341	1 (404) 455 93 01
		Chicago	2720 des Plaines Av. Suite 106	DES PLAINES, IL 60018	1 (312) 296 29 24
		Dallas	1915 Peters Road, Suite 306	IRVING, TX 75061	1 (214) 438 83 15
		Denver	309 Inverness Way South	ENGLEWOOD, CO 80112	1 (303) 741 37 17
		Des Moines	1603 22nd Street, Suite 104	WEST DES MOINES, IA 50265	1 (515) 223 60 95
		Detroit	Doner Building, Suite 525 26711 Northwestern Highway	SOUTHFIELD, MI 48034	1 (313) 352 95 30
		Houston	8550 Katy Freeway, Suite 211	HOUSTON, TX 77024	1 (713) 468 06 77
		Indianapolis	4740 Kingsway Drive, Suite 324	INDIANAPOLIS, IN 46205	1 (317) 259 12 01
		Kansas City	12460 West 62nd Terrace, Suite A	SHAWNEE, KS 66216	1 (913) 631 43 00
		Los Angeles	22010 South Wilmington Av. St 101-102	CARSON, CA 90745	1 (213) 835 32 73
		Minneapolis	10800 Lyndale Av. South, Suite 220	BLOOMINGTON, MN 55420	1 (612) 881 47 33
		Philadelphia	1730 Walton Road, Whitpain Office Campus	BLUE BELL, PA 19422	1 (215) 828 70 50
		Pittsburgh	3019 Maryland Avenue	NORTH VERSAILLES TOWNSHIP, PA 15137	1 (412) 824 84 10
		Portland	200 SW Market Street, Suite 961	PORTLAND, OR 97201	1 (503) 224 76 26
		San Francisco	1633 Bayshore Highway, Suite 237	BURLINGAME, CA 94010	1 (415) 692 60 50
		Seattle	33430 13 th Place South, Suite 200	FEDERAL WAY, WA 98003	1 (206) 838 36 00
		Saint Louis	201 Progress Parkway, Suite 121	MARYLAND HEIGHTS, MO 63043	1 (314) 576 21 20
		Tampa	4511 N. Himes Avenue, Suite 120	TAMPA, FL 33614	1 (813) 876 31 30
		Washington DC	The Clark Building 5565 Sterrett Place, Suite 322	COLUMBIA, MD 21044	1 (301) 596 00 80

## Associated Companies

FRANCE	GROUPE BOSSARD	Paris	12 rue Jean-Jaurès	92807 PUTEAUX	33 (1) 776 42 01
ITALY	SYNTAX	Milan	8 via Gaetano Negri	20123 MILANO	39 (2) 87 74 44
MOROCCO	ISMA	Casablanca	61 rue Lamoricière	CASABLANCA	21 (2) 27 92 52
UNITED KINGDOM	IAL	Southall	Aeradio House, Hayes Road	SOUTHALL UB2 5NJ	44 (1) 574 24 11

