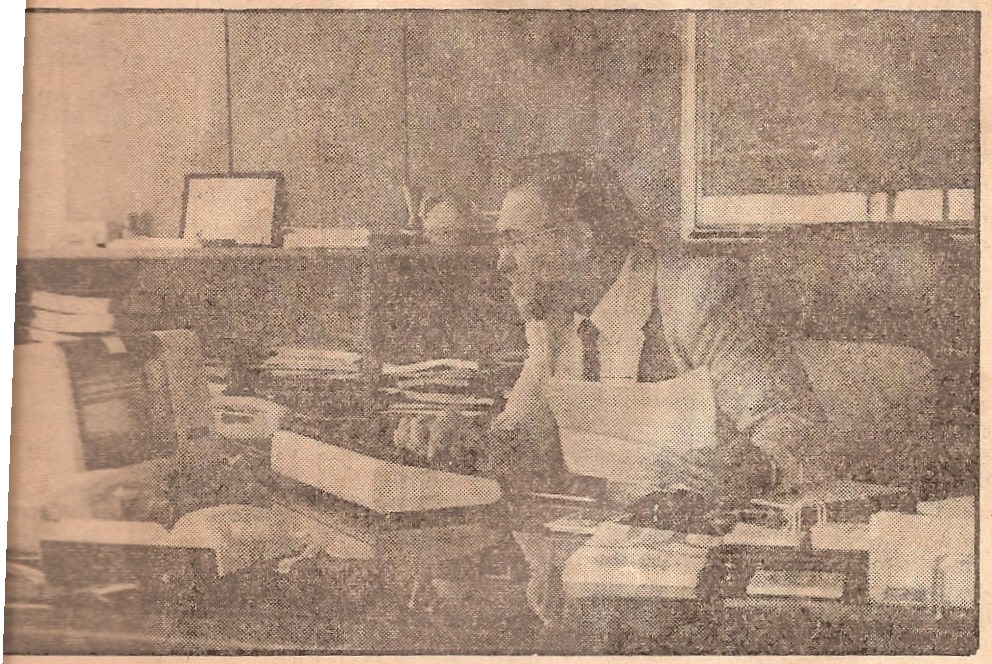
longers, estimates that Britain's fish shops have grants and other forms of assistance.

tage.

Mark Meredith | Antony Thorncroft

EDITED BY ALAN CANE



Professor George Lianis, Greece's first ever Research and Technology minister is a computer enthusiast

..and some are playing it

N LESS than four years ince its incorporation, Gigatronics, the first and nly Greek company to lesign and manufacture its wn computer systems, has nade considerable advances oth in terms of hardware nd software design. Company ources says, however, there as been very slow penetraion in private and public ector markets.

Clients have been won lowly but consistently, howver, and the list now ncludes the Public Power Corporation, several banks, he Ministry of Energy and hipping firms.

Penetrating the home narket for a Greek company as been particularly difficult iven the Greeks' general listrust of home made prolucts. One of the key lements of the company's narketing strategy, points out Gigatronic's marketing lirector Mr Spyros Dikepoulos, was the identificaion, at an early enough stage, f a specific niche for its roducts. These lay etween the very simple and onventional applications erved by the fast invading C's, and highly complex pplications which were ore the domain of mainrame computers.

Gigatronics current range of products comprise three basic units depending on memory size and users served. The smallest of the Gigatronic systems is called Hermes, after the Greek god of commerce and communications, and includes a VDU, a printer and a central memory unit whose capabilities range from a basic 64 Kb to 256 Kb.

Dr John Garyfallos, Gigatronic's director in charge of product planning, says that the Hermes unit was conceived right from the very beginning as a minicomputer suitable for Greece's great bulk of small and medium size companies whose average number of employees range from 10 to 40 people. "Being Greeks and having lived and worked in Greece for several years," says Garyfallos, "we think that we are in a much better position, compared to our competitors, to grasp the actual needs of the 100 thousand plus small industrial and commercial companies operating in Greece today. Their requirements call for a mini-type computer which can be expanded at little cost simply by the addition of more terminals."

Close co-operation with foreign suppliers is both inevitable and desirable, and we bear no grudges for it, say Gigatronics engineers involved with the design and production of the units at the company's manufacturing facility near Athens. The company recently established a close relationship with Newbury Data of the UK from whom they buy most of their discs.

Other vital components such as chips and VDUs are imported from abroad but the entire memory unit design and production is undertaken by Gigatronics—including all printed circuits.

Gigatronics now offers a larger system, the G-200, which is a direct development from Hermes. The G-20, which can take up to 16 terminals has already been put into use by bank and shipping clients. A larger system, "Europe," has just been perfected and is geared exclusively for large corporate clients.

One of Europe's important characteristics is its multicluster networking architecture. Each cluster behaves very much like an independent compnter and can take up to 32 terminals.

But perhaps the most exciting of all Gigatronic products to date, notes Garyfallos, is the development of its own terminal display unit. Named Ekati, the name given to one of Moon's satellites, it is wholly designed and produced by Gigatronics.

Software

Designing on micros

COMPUTER - AIDED design systems which can be run on personal computers are starting to challenge the more expensive varieties developed to operate with larger machines. So says Autodesk of Sausalito in California which has developed the second generation of its AutoCad software package.

AutoCad 2 runs on a variety of personal computers including Wang, IBM, Digital Equipment, Texas Instruments and Tandy machines. It has conventional drafting facilities as well as the ability to enlarge parts of the drawing, the ability to move objects around the screen and the provision of isometric grids. More details from the company in California on 0101 415 332 2344.

Computing

Employee database

PERSONNEL management systems for personal computers may not sound exciting but they generate a lot of interest in the personnel business.

The latest, Profiles PC from Comshare, the U.S.-based computing services company, can hold all basic employee information — identification and status, pay rates and salary, job codes and descriptions, full demographics, benefit plans, internal aud external mailing addresses and so on.

Profiles PC takes care of everything for companies less than 2,000 strong for larger companies, it can be tailored to distribute personnel information to individual divisions or departmental managers. More from Comshare UK on 01-222 5665.

who may take their grandchildren, children or classes to the show seemed the most economical buy.

and Garden, New York, The New Yorker and *Women's Wear Daily*.

Altogether the library total $100,000 promotion budget was used up for the censorship show.

thing fishermen are coming to terms with, if grudgingly. There are good reasons, though, for

TECHNOLOGY

GREECE IS EMBRACING OFFICE AUTOMATION AT LAST

Greeks dance to the computer tune

BY COSTIS STAMBOLIS IN ATHENS

GREECE, technologically and commercially backward compared with her EEC partners, has been bowled over by the computer revolution.

Over the past two years, industrial firms, factories, banks, department stores, engineering consultants offices, shipping firms, hospital and universities have succumbed to computerisation using a wide variety of mainframe, mini and personal computers.

Official sales figures are not available but independent analysts estimate that some 5,000 computer systems are in operation, the great majority purchased since 1980. These analysts predict a doubling of this figure by the end of 1986.

> Although Greece has joined the information society, methods for data acquisition are archaic.

Well established computer firms — IBM, ICL, Honeywell and Nixdorf — have been selling and maintaining large computers in Greece for years, chiefly to government bodies and large institutional clients.

Newcomers like Apple, Wang, Olivetti, Sharp, Cromemco, Radio Shack and Xerox are fighting for a share in the fast growing personal computer market.

One sure sign of the trend is the appearance of five specialist computer magazines, all doing well thanks to massive company advertising.

Professor George Lianis, Greece's first ever Research and Technology Minister, a computer enthusiast himself, is concerned over the public sector's poor efforts in introducing information technology. In a recent interview, he told the Financial Times that the problem did not lie in lack of funds or specialised personnel but with government bureaucracy and overstaffing.

Although Greece had joined the information society, Lianis said, the methods used today for information acquisition and dissemination were quite archaic. "Fortunately, information systems such as word processing, data banks and integrated electronic office systems may come to our rescue," he added pointing out that: "To take advantage of information technology we need first to define the various problems that confront us and then opt for the least socially damaging solution; we are fully aware that one of the biggest drawbacks in introducing IT systems is the creation of more spare time."

One of Professor Lianis's main tasks is to computerise the government's ministries and so attempt to improve their efficiency. He began with his own ministry where personal computing systems are being installed for word processing and electronic mail.

Sources close to the government say that Lianis has been instrumental in educating and convincing the Prime Minister, Dr Andreas Papandreou, of the need to modernise the government machinery through the introduction of computer technology.

The same sources point to the fact that during a recent government reshuffle Lianis retained his post despite heavy criticism of his performance concerning the introduction of the country's first law on scientific research.

Among his Ministry's chief achievements in the IT sector Professor Lianis cites the work currently in progress at the Crete National Research Centre and Documentation Centre.

NDC, which has the country's largest scientific reference library aside from having developed its own data banks, is linked with more than 400 data banks in Europe and the USA, through the EEC-backed Euronet-Diane network.

According to Professor Miltos Typas, NDC's scientific director, the Centre collects, classifies, stores and retrieves

> "To take advantage of information technology we need first to define the problems that confront us"

information on specific topic following requests coming i from all over Greece an abroad. Professor Typas say one NDC function is the co tinuous updating of inform tion in the 70 or more area where it has established da bases. Via a computer termina the NDC is linked with most Greece's research centres ar universities.

CONVEX IN THE U.S. INTRODUCES ITS C-1 MACHINE

Super computer at mini prices

THERE are only about 110 supercomputers installed worldwide. One of the reasons is the sheer cost of these machines which can work out in seconds the answers to complex questions that would take hours on a less sophisticated computer.

Convex Computer Corporation, based in Richardson, Texas, says that it has developed a supercomputer which sells for the price of a supermini computer. As US$500,000 the C-1 is at least 10 times cheaper than rival supercomputers.

The potential market for the C-1 is in geophysical and seismic calculations for the location of oil reserves. This requires a large amount of computing power and this job has normally been carried out by Cray or CDC computers.

Other applications include computer aided design systems. Aerospace, automotive and semiconductor manufacturers are interested in mechanical and electronic computer design systems. A third major area is in research and development which wide ranging needs from basis research in physics to weapons development.

> The potential market for the C-1 is in geophysical and seismic calculations

These applications are presently met by a variety of computer systems including supercomputers, array processors, high end mini and superminicomputers.

The C-1 can compete in these markets though its design is more akin to a supercomputer. For example, it has a 64 bit word length compared with 32 bits for a supermini. Supercomputers also can perform scalar and vector processing. Scalar is simply carrying out one element of calculation at a time while vector processing operates on vectors, arrays and matrices so that four elements could take only one operation. These computers also are able to handle separate steps of instructions simultaneously.

According to Convex, the C-1 has these facilities but not the disadvantages of supercomputers which often depend on power hungry circuits and over complex software. The C-1 is based on conventional circuit technology and uses the Unix operating system.

Information

Managing unit trusts

HOSKYNS, the computin services company, ha launched a software packag for the unit trust mark which, it claims, gives acce to the latest dealing mana ers information.

Called CUTAS (Compute ised Unit Administration Sy tem) it has three module dealing, registration and sa ing plans, and runs on IB System/34, /36 and /38 sma computers.

It is on-line and real tim Users include Britannia, Sta dard Chartered and Fidelit Peter Moderate of Fideli said: "Sooner or later, companies in the unit tru market will have to compute ise their systems to survi

More on 01-242 1951.