

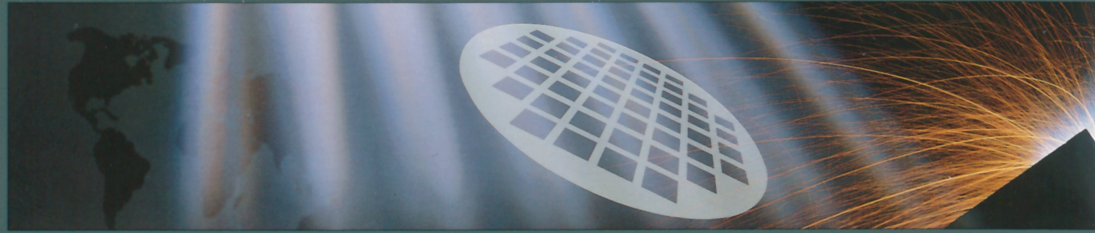
INVENTING

THE

FUTURE



inmos



inmos

INMOS is a leader in the development and manufacture of high performance integrated circuits, and is regarded as a pioneer in the field of parallel processing. The Company is manufacturing components today that meet the processing needs of the most demanding current applications. New designs are under development which will meet the requirements of systems in the next decade. Computing requires high performance, flexibility, and simplicity of use and these characteristics are central to the design of all INMOS products.

As developers of the transputer, a unique microprocessor concept with revolutionary architecture, and the occam parallel processing language, INMOS has established the standards for the future exploitation of the power of parallel processing. Further, INMOS has developed a range of digital signal processing products, and colour graphics microsystems which are being used to deliver an unprecedented cost performance ratio in many radar and display products. As a result of innovative product design and development INMOS is creating new applications markets by applying advanced technology to optimise the performance and cost of specific areas of high performance systems.

In support of its product innovation, INMOS operates its own world class VLSI (Very Large Scale Integration) fabrication plant and thereby establishes business control from concept and initial design, through manufacturing and marketing to distribution and support. This ensures consistently high standards of quality in production and service worldwide.



*Douglas Stevenson,
Chief Executive*



*Iann Barron,
Corporate Development
Director*

"WHAT I
THINK WE ARE
WITNESSING TODAY
IS
THE LAST HURRAH
OF SERIAL PROCESSING."

*Joel Birnbaum Hewlett Packard,
Vice-President and General
Manager of the Information
Technology Group*

INMOS has over 10 years experience in the memory and microprocessor industry and is looking forward to the future. The Company has a solid record of innovation in a wide range of product areas; a progressive approach that has placed INMOS products centre stage in a world semiconductor business worth \$40 billion a year. Many years of dedicated research and development lie behind INMOS achievements in parallel processing.

From the beginning INMOS has fully exploited trends in VLSI technology, and when the transputer was introduced in 1985 it was the first commercially available microprocessor to employ RISC techniques to achieve very high performance. The transputer is a radically different microprocessor, setting a new standard.

INMOS products do not stop with the transputer. The Company has made exciting advances in the field of colour graphics; the INMOS colour palette device has been chosen by a number of major international companies including IBM, to improve the graphics capabilities of their new personal computers. The INMOS colour palette is now established as the industry standard, and, according to Dataquest, in 1988 IBM expects to sell 2.5 million PS2 computers. In the meantime INMOS is developing colour graphics devices for the next decade which will deliver high resolution colour graphics as well as perform all of the video control functions.

Other INMOS chips include new ranges of digital signal processors to be used in areas such as robot vision systems and high definition television; and fast static RAMs, a field in which INMOS holds 10 per cent of the world market, and a greater share of the very fast static RAM market. With the transputer INMOS pioneered the integration of very fast memory, high processing power, and high speed data communications links on a single piece of silicon; and future transputers will exploit these techniques at even higher levels of integration.

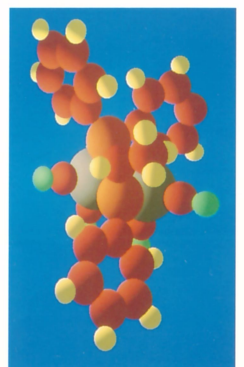
"IT'S A SCANDAL
THAT THE
SEMICONDUCTOR INDUSTRY
HAS NOT
EXPLOITED THE
POTENTIAL FOR SILICON
BUT
JUST IMPLEMENTED
OLD IDEAS CHEAPER."

Carver Mead

"SHELL
IS INTERESTED IN
PARALLEL PROCESSING
FOR THE
POTENTIAL GAIN
IN EFFICIENCY."

*Mr Johannes GG van de Vorst
Koninklijke/Shell-Laboratorium,
Amsterdam
Netherlands*

*Transputer
powered
molecular
modelling*



"WE CHOSE
TRANSPUTERS
BECAUSE
THEY GIVE US
THE BEST
FLOATING POINT
PERFORMANCE
PER DOLLAR
AND THE BEST
PERFORMANCE
PER SQUARE INCH
OF BOARD AREA."

Jeff Mock

Project Manager

Pixar

USA

Advances in semiconductor electronics have changed our lives, in business and in leisure. The electronics industry is no longer looking only to a specialised or business market; high level computing based products are increasingly entering the mainstream retail sector, with more applications than ever before.

Today the dominant equation is that time equals money; technology services an ambition to perform functions more quickly, more cheaply and with the greatest possible accuracy. The world electronics market is currently valued at \$770 billion. Substantial growth over the coming year is expected in telecommunications, data processing and transportation, growing by 13 per cent, 14 per cent, and 16 per cent respectively. The communications market (cellular telephones, facsimile and so on) is growing at 26 per cent per annum and the present 4-5 million facsimile users represent a growth factor of 20 over the last 4 years, and an increase over the period 1986-87 of a staggering 126 per cent. The INMOS transputer is making a vital contribution to these revolutionary changes, with the first transputer-based personal work station now coming to market.

The applications potential for INMOS general and system specific components is open-ended; the automotive industry expects to increase the semiconductor content of automobiles threefold by 1990, and the fast expanding aviation industry requires more and more sophisticated, powerful navigation and radar technologies to ensure safety in crowded skies. And as applications markets grow in size and stability, more dedicated semiconductor products are designed and produced. INMOS is ideally positioned to supply dedicated chips for the fast growing range of embedded systems. Market statistics identify a current growth level in the world semiconductor industry of 20 per cent in Japan, 20 per cent in the US, 14 per cent in Europe, and 40 per cent in Asia. INMOS is a driving force in this changing world.

「トランスピュータは当社のシステムに大変強力な並列処理能力をもたらしてくれました」

国際電信電話株式会社

衣畑氏



KDD

colour picture

transmission system

"TRANSPUTERS HAVE
BROUGHT A
REALLY POWERFUL
PARALLEL PROCESSING
CAPABILITY
TO OUR
SYSTEM."

Dr K Kimuhata

*KDD (International Telegraph
& Telephone)*

Japan

As technological ambitions have become more complex and more sophisticated, there has been an equivalent need for faster and more powerful processing. Taking the conventional serial approach to computing has meant escalating development costs to achieve advances from this original concept of computing. INMOS has been convinced for many years that the future in semiconductors lies in taking a radical and new approach. The result is the transputer, an existing testament to the power of parallel processing.

Transputers have already made many of today's applications easier and simpler to implement, and promise to add a new dimension to the systems of tomorrow. For the first time there is a programmable component with the future built-in, and a previously unknown level of flexibility has become an affordable reality. A given application might use anything from 1 to 1000 or more transputers depending on function, and can expect an almost linear increase in performance — an achievement that is unique to parallel processing. In order to fully realise the potential of concurrent processing INMOS has developed the high level programming language occam, the first commercially available language based on the concepts of concurrency and communication. INMOS also provides a growing range of software tools for use with transputers including industry standard 'C', Pascal, and FORTRAN compilers, allowing customers to re-use their investment in software already written. Further compilers including Ada, are under development, and a variety of new applications and software packages are now being developed and marketed by independent companies.

Parallel processing is no longer a theory for the few — it is bringing real power to the mainstream of users, in hundreds of applications. And it makes much more possible, more simply than ever before, as the following examples illustrate.

*"ONLY TRANSPUTERS
GIVE REALISTIC
SOLUTIONS
TO OUR VARIOUS
APPLICATIONS
REQUIRING
HIGH PERFORMANCE."*

*Mr M Fukushima
Nippon Steel Corporation
Japan*



*Avionics today
demands
powerful
real time
computing*

*The INMOS
colour palette
offers improved
graphics capabilities*



INDUSTRIAL CONTROL

Cost cutting is an essential part of manufacturing in a competitive world market. British Steel Corporation is no exception, for it has decided to complement its complex data collection and monitoring system with transputers and thereby extend its manufacturing capabilities. With a fuel bill running into £ millions annually a saving of even 1 per cent is substantial. The transputer enhanced system will provide energy management operators with usable information distilled from a potential 3500 pieces of data every 3 seconds. This will enable managers to make the best use of fuel minute by minute.



Energy management is benefiting from transputer power

「ハイパフォーマンスが要求される多様なアプリケーションに満足していく結果を与えてくれるのはトランスピュータだけです」

新日本製鉄株式会社
福島氏

GRAPHICS POTENTIAL

The introduction of transputers has produced new levels of achievement in the field of computer graphics. Transputer-based parallel processing has created exciting possibilities in areas as diverse as medicine, television, radar, molecular modelling, CAD, and commercial graphics. Transputers provide the raw power behind the systems, and specialised INMOS components such as the colour palette device improve the range and complexity of colours available.

FINANCIAL FORECASTING

Large securities and finance companies in Japan are now using transputers to speed up financial forecasting operations — and they're selling their hardware and software packages to other Japanese financial institutions. Complex forecasting that takes several hours on an IBM PC, and around 20 minutes with a micro VAX, can take as little as 3 minutes when the system is boosted with a transputer. It is anticipated that 3 transputers will be used thereby running at approximately three times the speed. A case where time quite literally equals money.

"THE TRANSPUTER IS BASELINED FOR THE GENERIC CHECKOUT SYSTEM BEING DEVELOPED AT THE NASA KENNEDY SPACE CENTER. THE TRANSPUTER WAS CHOSEN FOR ITS PROCESSING POWER AND INTERCONNECTABILITY AS WELL AS ITS SMALL REAL ESTATE REQUIREMENTS."

Roselle Hanson
NASA
USA

TECHNOLOGY FOR DEFENCE

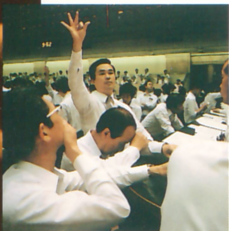
Until today the most sophisticated computing remained firmly on the ground. Civil space and military applications frequently expose electronics components to hostile environments and yet demand absolute reliability at all times. High cost has also limited the use of complex computing under these conditions. The features of the transputer make it an ideal solution. Not only do transputer systems offer a previously unknown level of fault tolerance (vital in both space and military applications) but they show substantial price to performance ratios over conventional methods of achieving the same result. Similar advances have been possible in naval and military applications where the minimum of peripheral support chips for transputers make them especially valuable. With the arrival of transputers and digital signal processors qualified to military specifications, and with an Ada compiler on the way, INMOS is meeting the exacting demands of the military market.



INMOS products are being designed into a wide range of military applications

OFFICE TECHNOLOGY

INMOS components are bringing new performance standards into the field of office technology including facsimile, personal computers and workstations, laser printers, graphic systems, and even the humble photocopier. The advances made possible by transputers are dramatic. Transputer-based laser printer systems operate at up to 50 pages per minute (and more) at a cost no higher than today's average of 8 to 12 pages per minute. Adding more transputers makes higher performance an affordable reality. For the transmission of still colour pictures, Japan's International Telegraph and Telephone Corporation, KDD, has based its systems on transputers. As with other applications areas, it is the power, cost-effectiveness, and flexibility of transputers that add new dimensions to technological achievements.



Transputers provide the performance where time equals money

"ARE THERE REALLY STILL PEOPLE, WHO DON'T KNOW THE VIRTUES OF TRANSPUTERS?"

*Dr Dietmar Hildebrand
Apollo European
Technical Development*

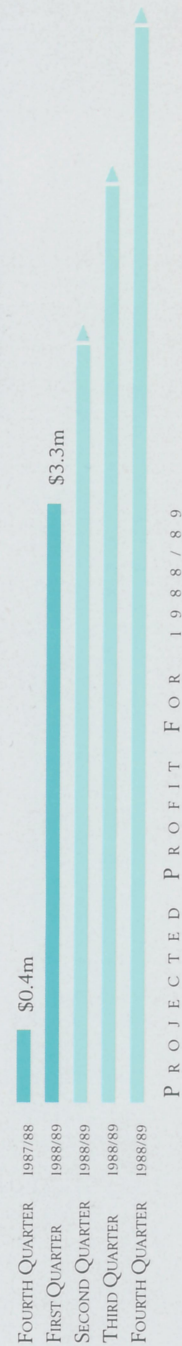
INMOS has been operating profitably throughout the year and continues to improve its market position. INMOS products with many years research and development behind them, are now setting new standards in the world semiconductor market.

"INMOS HAS BEEN RESHAPED AND REVITALISED TO MEET THE DEMANDS OF THE NEXT TECHNOLOGICAL REVOLUTION IN THE ELECTRONICS INDUSTRY. WE ARE OPERATIONALLY PROFITABLE AS A RESULT OF MEASURES TAKEN OVER A TWO YEAR PERIOD. HAVING UNDERGONE SIGNIFICANT RESTRUCTURING WORLDWIDE, INCLUDING THE CENTRALISATION OF MANUFACTURING, THE FINANCIAL BREAKEVEN POINT HAS BEEN REDUCED BY 40 PER CENT. YET THROUGHOUT THIS PERIOD RESEARCH AND DEVELOPMENT EXPENDITURE HAS INCREASED TO ENSURE THE CONTINUED DEVELOPMENT OF OUR FUTURE PRODUCTS. INMOS IS NOW POSITIONED AS A GLOBAL PLAYER IN THE SEMICONDUCTOR INDUSTRY."

Douglas Stevenson
Chief Executive

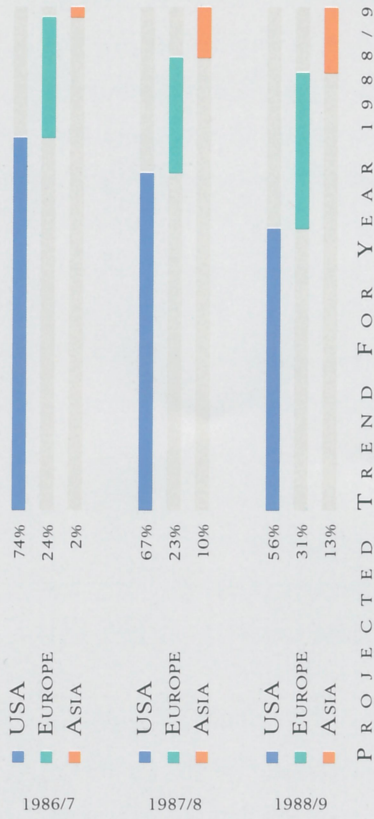
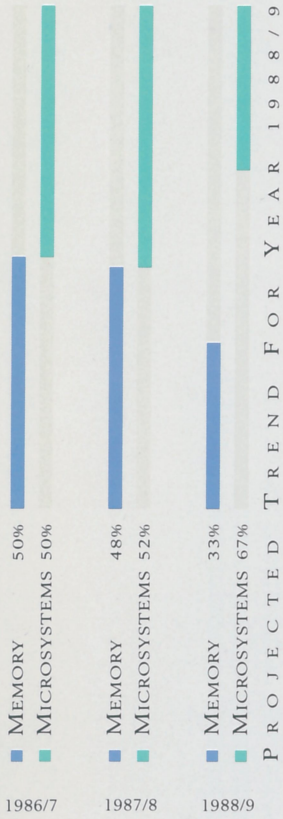
During the financial year to March 1988 INMOS out-performed the semiconductor industry's market growth with an increase in revenues of 40 per cent and growth in bookings of 55 per cent. The Company also substantially increased its market share in Japan and the Far East, where INMOS now derives 10 per cent of revenues after only two years operating in the region. This is considered an important achievement in countries with powerful indigenous electronics companies.

Being a significant supplier in the world fast static RAM market, memory technology products are expected to account for one third of revenues over the coming year. Microsystems — transputers, colour palette devices and digital signal processors, are rapidly increasing their market share and are expected to account for two thirds of the Company's revenues during 1988. Recognition of the cost-effectiveness and flexibility of these products has led to their use in an increasingly broad range of applications.



PROFITABILITY
SINCE
FOURTH QUARTER
1987/8

OPERATING PERFORMANCE



WORLDWIDE BOOKINGS TREND BY PRODUCT

WORLDWIDE BOOKINGS TREND BY GEOGRAPHIC AREA



WORLDWIDE REVENUES

CURRENT AND PROJECTED FINANCIAL PERFORMANCE — GENERATING SIGNIFICANT PROFITS.



- INMOS SALES OFFICES
- INMOS DISTRIBUTORS



*Yasushi Mochizuki,
Commercial Manager
in Japan*



*Phill Rutter,
Director of Manufacturing
and Harry De Buriatte,
Director of
Quality Assurance*



*Doug Mitchell
Manager Sales and Marketing
North America
and Bob Gower
Senior Officer US operations*

INMOS DIRECTORS

DOUGLAS STEVENSON	CHIEF EXECUTIVE
IANN BARRON	CORPORATE DEVELOPMENT DIRECTOR
PETER CAVILL	TECHNICAL DIRECTOR
MICHAEL WRIGHT	CORPORATE SERVICES DIRECTOR AND DEPUTY CHIEF EXECUTIVE

EMPLOYEE INFORMATION

NUMBER OF EMPLOYEES
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31 MARCH 1988

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