



PRIME MINISTER

INMOS.

Prime Minister

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The expected

2 pps

reply on INMOS. Please

See Dr Nicholson's note on the technology.

Are you prepared to have a meeting - Patrick Jenkin

Treasury

Dr Nicholson

?

I have seen your Private Secretary's letter of 15 November about INMOS.

2 To answer your specific questions, I enclose a table setting out how INMOS has used the funds it has had and what jobs it has created; and a letter from Hill Samuel to justify their confidence that private sector money can be raised in 1983 and that the requirement now is to adjust the borrowing limit in order to provide bridging finance. British Telecom have now decided firmly not to proceed with taking an equity stake.

MCS 19/11

3 I should like to summarise the reasons why I believe we should not withdraw support from INMOS - let me begin with the main one.

4 The main reason why INMOS was set up in the first place was to create a domestic capability at the top end of the rapidly developing market for chip technology. As I understand it, the creation of jobs, though valuable, was of secondary importance. Although you and I would not have approved of the way in which the initial financing was done, the fact is that we have to build on what we have got. We cannot start afresh. Nothing that has happened since then has lessened in any way the need for the UK to develop its own capacity to manufacture these highly complex memory chips. When we discussed the projected sale of Nimrod aircraft to Iraq, you will remember that it was in exactly this field of technology that the Americans have a hold over us because of the memory chip component in the Nimrod electronics system. You expressed then and, later, at the Paris Summit, the desirability of European countries developing their own independent capacity in this and other high technology fields in order to avoid the kind of pressures that arose over the Siberian pipeline. I believe that it would be totally inconsistent with this clearly expressed strategic objective now to let INMOS die



or be broken up for what the assets might fetch. It is not only in the defence field that INMOS' technology will be vital; it will be extremely valuable for our future IT industry as a whole.

5 Although a link-up with an established electronics company such as GEC may well make sense in the longer term, INMOS is at present a different type of business. The fact that GEC is not ready yet to make an acquisition certainly does not mean that INMOS is failing. I think the fact is that Arnold Weinstock and others resented our predecessors' decision to put public money into this high technology field and find it difficult to reconcile themselves to the fact that this small team of highly inventive entrepreneurs may well be succeeding. There is a great deal of jealousy but I am sure we should not allow ourselves to be influenced by that.

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6 There is not the slightest doubt that if BTG were now to dispose of INMOS in a forced sale, the technological benefits which are now emerging and which have been acquired at such cost would almost certainly be lost to this country. I think we would face severe criticism of having killed INMOS off just at the point when it was becoming apparent that it could succeed.

Then it can get private finance

7 These central considerations apart:

a the achievements which INMOS has made are substantial. There is wide confirmation from customers and technical consultants that its design capability and production facilities are of world class. Its products are now selling well; it is the sole source for a number of military contractors in the US. The Newport factory was finished on time. It is only through lack of funds that the build-up of production and employment of staff is being held up;

Then they can finance it.

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b continued support for one more year is the sensible commercial course. If we withdraw support, our chances of selling INMOS as a going concern are minimal, certainly as

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far as the Newport factory is concerned. The BTG's estimate is that on break up, it might achieve a net figure from disposal of the assets of somewhere between nothing and £10 million. This would represent a loss to public funds of £40-50 million. If we continue to support INMOS for a year and Newport moves into volume production - and there is no reason to doubt that the facilities there can be made to operate efficiently - we would at least have something to sell of lasting value to this country with new jobs in South Wales and a reasonable chance that INMOS will by then have demonstrated its capacity to grow and to yield a positive, and possibly substantial return on our investment;

And yet you claim it is successful?
Every reason?

as I indicated earlier, I would not have approved the INMOS project in the form in which it was set up. Nevertheless, in political terms I think it would be difficult to let INMOS fail now. I would certainly find it hard to reconcile with our determination to help the IT industry grow, particularly with the attention focussed on this at the end of IT 82 and your own speech at the Barbican.

not yet drafted

8 A decision on this cannot be delayed. Extensive enquiries of potential sources of private funds have been made over the last months both by INMOS and the BTG and their respective advisors and over the last few weeks by Jeffrey Sterling. The view that private sector money can be found next year is not just that of Hill Samuel but is shared also by the Bank of England. Meanwhile confidence in INMOS is being affected and key staff are already considering leaving. If the borrowing limit is not to be increased by the £15 million I have recommended, we would then need to give the BTG as much time as possible to dispose of INMOS before it ran out of funds. There is already a risk that additional funds would be required simply to close the company down. I would therefore be grateful for an urgent meeting with you to discuss the matter.



9 I am sending a copy of this minute to other members of E
Committee, George Younger, Nicholas Edwards, Sir Robert Armstrong
and John Sparrow.

PJ

P J

19 November 1982

Department of Industry
Ashdown House 123 Victoria Street



May I have the original forecasts in detail. I will have them analysed

Amount of public money invested in INMOS

- a) NEB equity stake - £50 million, fully paid up
- b) Grants - £8 million (of which £1.82 million of the £4 million Section 7 money and £1.32 million of the £4 million Regional Development Grants has been paid).

We are meeting with jobs in the U.S.A.

In addition there is exposure on outside borrowings with a limit of £35.3 million, since the NEB (BTG) follows a practice in standing behind the debts of subsidiaries. The present borrowing level is £26 million. In addition under the Industry Act there is exchange rate cover on a £5 million European Coal and Steel Community Loan. The outstanding total of these various monies is £84 million.

British money not

How has this £84 million been spent?

	USA	Bristol	£m Newport	Total
Fixed Assets (at cost)	29	2.5	18.5	50
R&D (expensed)	10	2.5	0	12.5
Working Capital (and other accumulated losses)	17.5	1.5	2.5	21.5
	<u>56.5</u>	<u>6.5</u>	<u>21.0</u>	<u>84.0</u>

Employment

	UK	US	Total
Manufacturing related and Quality Assurance	162	437	599
Admin	48	133	181
R&D	50	69	119
Marketing	9	21	30
	<u>269</u>	<u>660</u>	<u>929</u>

£84 million for 269 jobs.

If Newport resumes its build up there will be a total of UK employees of 750 in 1983 and 1,200 in 1984. During the same period US employment would rise from 660 to 1,000.

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CFC/RAD/NJA

18th November 1982

J. M. Sterling Esq., C.B.E.
4 Carlton Gardens,
Pall Mall,
LONDON SW1Y 5AB

Dear Jeffrey,

I am writing to confirm what we have said in recent discussions with you.

After over a year of exposure to the company and its management, we firmly believe Inmos has the potential to be a major factor in the world semi-conductor market and is capable of earning substantial profits. Contrary to the popular view, Inmos has achieved most of what it set out to achieve. Following our visit to the Colorado Springs facility in early November, we now also believe that Inmos will achieve the production targets they have set for their 64K DRAM in sufficient time to permit us to arrange an equity financing to raise £10 to 15 million from institutional investors in the Spring of 1983.

The company cannot unfortunately wait until the spring of 1983 for new money. In line with the forecast Inmos made in July, 1982 as part of its 1982 long range plan, the company will require, between now and the end of 1983, new cash of some £7 million to finance capital expenditure and operating losses. However, in addition, as a result of the \$/£ exchange rate having fallen substantially below the \$2 rate used when the borrowings limit was established in October, 1980, the company's already outstanding dollar borrowings are increasing in terms of sterling by enough to cause the borrowings limit to be breached outside the company's control.

A solution is urgently needed by way of new BTG supported finance and an amended borrowings restriction so that the company can pursue an operational plan which will permit privatisation to occur.

This must be accompanied by strong statements of support and encouragement from the Government so that the company will be able to reverse the bad press it has been getting. A feeling

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that the Government wanted Inmos to succeed would help the company enormously in its efforts to fill out its management, to convince existing and potential customers of its future and to get a successful privatisation process under way.

Inmos' management and employees want privatisation to occur as soon as possible because it is most unhealthy for the company to have a reluctant government as controlling shareholder. The two practical routes to privatisation are firstly sale of the whole company to a single controlling shareholder, probably American or Japanese because none of the UK electronics companies sufficiently appreciates the need for the technology to contemplate the size of investment required, and second sale of the company to institutional and ultimately individual investors.

The latter is the route we are pursuing but it will take time. The main challenge is that Inmos is in a technical sense a highly complex business with a great deal of tough American and Japanese competition. At this stage of its development - some 12 months ahead of achieving its first profit - it is an investment proposal which can only be negotiated over a period of time with a restricted group of sophisticated investors, and the size of the financing is therefore limited. The investors have to be persuaded that Inmos is as good a home for their money as Intel or Fujitsu in the same industry or a whole range of alternative opportunities.

Barring a collapse of confidence in financial markets we are, however, confident we will be able to put together such a group in the Spring of 1983 provided that Inmos achieves its 64K DRAM production targets and that the Newport ramp-up is proceeding successfully.

We believe we will be able to persuade institutions that compared to other investment opportunities:-

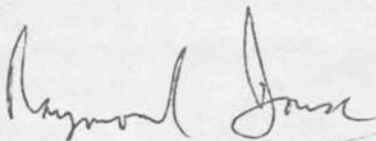
- (1) Inmos can succeed in a world market which will show substantial growth in the years to come and which could prove the essential foundation for the world's electronics companies;
- (2) Inmos is the only company in the U.K. involved in this area; and
- (3) Inmos has a depth of management, design skills, production experience and a highly impressive list of customers, rare at this stage of a company's development.

Since the value of Inmos could rise dramatically during 1983 as it proves it can perform, it might of course be sensible to defer a financing until later in the year. As Inmos proves it can perform, the range of investors prepared to invest in the company on both sides of the Atlantic will also widen. For those two reasons, the size of the financing which it will be feasible to arrange will also therefore enlarge.

The company's objective at the earliest possible moment has always been a public issue of shares which would be broad enough to take out the BTG altogether and refinance the debt.

People who take the time to try to understand Inmos become supporters. With informed support it can become a great British/American success story.

Yours sincerely,



R. A. DOUSE
Director



W.0719

19 November 1982

TO: PRIME MINISTER

cc: Sir Robert Armstrong
Mr Sparrow

FROM: R B NICHOLSON

INMOS

I understand that you are currently considering a proposal from the Department of Industry to increase the Government guarantee for INMOS by £15 million. I am in no position to advise you on the overall financial situation at INMOS or on the cost-effectiveness of past expenditure of public money by this Company. However I felt that the Secretary of State's letter to you did not adequately cover the technological achievement and potential at INMOS.

2. I visited INMOS in the Spring knowing little about the Company except its unhappy and ill thought-out origins under the previous administration.

3. I came away extremely impressed by the quality of Ian Barron and his management team, by the care and imagination with which they had identified promising market segments where the competition is based on quality rather than price, by the originality and brilliance of their designs for these market segments, and by the positive way they were interacting with our brightest brains in universities and beginning to attract some excellent graduates and postgraduates to work for INMOS.

4. Although INMOS has some way to go before it becomes established as one of a range of British companies in the devices/microelectronics/IT/electronic equipment area, I do believe it has this potential and that our future excellence in this vital area of industry will be enhanced by the existence of a successful specialist chip company.

5. The present track record includes taking 75 per cent of the world market for premium 16K RAMs. The 64K RAM has been launched in small volume from the Colorado plant and is being taken up well by customers. Valuable property exists in the form of a new computer-aided design tool for microelectronics, a new language OCCAM, and the transputer concept. These form the basis for future innovative products.

6. The demise of INMOS would almost certainly lead to the migration of its first-class design team to the United States and would leave a significant gap in the range of British companies which would be serving the IT and associated markets.

7. In assessing the technology at INMOS I have to regard the previous public financing as a sunk cost and to try to focus on INMOS as it is today in terms of technological achievement and future potential. On this basis there is, as I have indicated above, a bright side to INMOS which I felt I should draw to your attention at a time when you are considering the commercial prospects on the basis of advice from the Department of Industry.

RBN

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18/4

PM's Questions: INMOS

1. Amount of public money invested in INMOS

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- b) Grants - £8 million (of which £1.82 million of the £4 million Section 7 money has been paid and £1.32 million of the £4m Regional Development Grants).

In addition there is exposure on outside borrowings of £35.3 million, since the NEB (BTG) follows practice in standing behind the debts of subsidiaries. The present borrowing limit stands at £26 million. In addition under the Industry Act there is exchange rate cover on a £8 million European Investment Bank loan.

2. How has the money been spent?

	<u>Assets</u>		
	USA	Bristol	Newport
Fixed Assets (at cost)	29	2.5	18.5
R & D (expensed)	10	2.5	0
Working Capital (and other accumulated losses)	17.5	1.5	2.5
<u>Worldwide Employment</u>	<u>57.5</u>		<u>27.5</u>

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£m

3.

	UK	US	Total
Manufacturing related and QA	162	437	599
Admin	48	133	181
R & D	50	69	119
Marketing	9	21	30
	<u>269</u>	<u>660</u>	<u>929</u>

From 1982 onwards planned development is on building up the Newport fabrication plant to give a total of UK employees of 750 in 1983 and 1,200 in 1984. During the same period US employment would rise from 660 to 1,000.

DRAFT LETTER FROM PRIME MINISTER TO SIR HENRY CHILVER, FEng, FRS.

Technological excellence is a major factor in the economic recovery of the United Kingdom and one outstanding asset is our universities' research base. The recent report from the ABRC/UGC "Support of University Scientific Research" has made a valuable contribution through focusing on the dual support system for scientific research in universities. It urged stronger links between universities and industry but did not enquire into or develop this theme. The report by Job Creation on "Helping Small Firms Start Up and Grow" recommended a study on university-based incubator schemes for new small companies. Established companies also look to universities to provide part of the science and technology base from which they will develop new products and processes.

There is a need to foster and improve relationships between universities and industry whilst respecting, of course, the

primary roles of both parties. I would welcome a report from the Council on this subject. It would be helpful to have it available by the Spring of 1983. The Council may feel that it would be useful for the report to be prepared in collaboration with ABRC.