

Sir John MASON
29/9



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JA

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From the Private Secretary

Ack/15 September 1987

I enclose a copy of a letter which the Prime Minister has received from Sir John Mason of the Royal Society.

I should be grateful if you would provide a draft reply for the Prime Minister's signature, to reach this office by 29 September.

I am copying this letter and enclosure to Trevor Woolley (Cabinet Office), John Fairclough (Chief Scientific Adviser) and Tom Jeffery (Department of Education and Science).

(D.R. NORGROVE)

Tim Walker, Esq.,
Department of Trade and Industry.

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From: Sir John Mason, C.B., F.R.S.



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10 September 1987

Our Ref: BJM/T.NG

Dear Prime Minister,

THE NATIONAL SPACE PROGRAMME

1. I wrote to you 18 months ago arguing for the formulation of a national strategy for space and for a central agency to carry it out. I was very pleased that you initiated an interdepartmental study which resulted in the establishment of the National Space Centre (BNSC) charged with producing a national plan for the next 10 years. It was therefore very disappointing to read your statement in Parliament that the government felt unable to fund the programme recommended by the Centre and that no additional money could be made available for space at the present time.
2. In the hope that this is not the government's last word and that the matter will be reconsidered by a committee under your chairmanship, I respectfully submit the following arguments in favour of Britain maintaining a realistic and viable investment in space science and technology. These represent my personal views, but I am confident that they would receive widespread support from the scientific community, including those who have no direct interest in space.
3. Advances in space have been so great and so rapid that it is difficult to see clearly more than a few years ahead. However, it is virtually certain that space science and technology will, during the next 20-30 years, have a greater impact on such areas as telecommunications, transport, defence and earth observations than all the technical advances of this century, apart from nuclear energy and computers.
4. Accordingly, it is difficult to see how any major industrial country can afford not to participate actively in these developments in order to influence the design and operation of space systems and derive maximum benefit from them. Competence in space activities is increasingly regarded as a measure of a country's capabilities in advanced technology because these impose on industry the most exacting standards of design, construction, testing and quality control. Probably the most important result of the U.S. Space Programme, especially the Moon Project, was to stretch American technology and management to the limit across the board, and this has given their industry the lead in many areas.
5. British industry has developed considerable competence in building satellites and component systems but this is limited to a few firms where performance is patchy. This competence needs to be expanded and sustained in order to compete in the rapidly expanding world markets for space technology and services. Satellite communications traffic is doubling every four years, whilst the demand for related ground equipment is estimated to

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reach £15 bn. a year by the end of the century. If U.K. industry were to obtain 10 per cent of just this latter business and make 10 per cent profit, this would nearly pay for our entire space programme. I believe that our industry needs the challenge and discipline of working on international space projects. The money lost on NIMROD and FOXHUNTER alone would fund our present space activities for ten years.

6. Although the economic benefits from space activities are mainly long term, and claims for spin-off are often exaggerated, there are many examples of major advances, e.g. in new materials, electronics, sensors, soft-ware and medical equipment, being fed back quite quickly into manufacturing industry. Because industry has much to gain, both directly and indirectly, from a healthy space programme, I agree that it should contribute to the funding of research in space technology and its applications. The identification and management of jointly-sponsored projects should be given high priority by BNSC but, as in all other countries, they will have to be substantially funded by government.

7. The competence of U.K. industry in space has been underpinned by, and largely built upon, our achievements in space science which, until recently, were second only to those of the United States. Apart from the fact that some of the most exciting of all scientific discoveries are being made in space, a strong space science programme is essential for the development of new ideas, instrumentation and techniques that may lead to practical applications and also for the recruitment and training of young scientists at the very forefront of technology. It has also given university groups and institutes like the Rutherford-Appleton Laboratory invaluable experience in the execution and management of very complex projects with great success.

8. For all these reasons it seems unthinkable that the U.K., already a major user of space systems, should cease to become actively involved at a viable level and become merely a customer. Virtually all of our industrial competitors are making much larger investments in space than we and are planning further expansion. Even India has a programme similar in cost but considerably greater in effort. During a recent visit to India I was both impressed and depressed to find that they have a larger, better defined and more coherent programme, much better managed than our own, and supported by sustained and steadily increasing funding. Even if the BNSC plans were fully implemented, our effort would still be a good deal smaller than that of France, Germany, Japan and China.

9. Our present level of investment is insufficient for us to remain a credible and effective partner in the proposed European programme. It will not enable us to have a strong influence on the choice, design and management of major projects for which we have the expertise and experience. As a minority shareholder in projects led by France, Germany and Italy, it is ~~do~~ doubtful whether we would get a reasonable return on our investment and it might be better to withdraw altogether.

10. Although I have no personal axe to grind over space (except for the maintenance of meteorological satellites), I feel strongly that it would be a profound mistake for the U.K. not to make an adequate investment in both space science and technology. At this stage, this might be set at a level rather lower than recommended by BNSC, deferring decisions on longer-term projects such as HERMES and HOTOL until more detailed studies have been made.

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I believe that our status and credibility as an advanced manufacturing nation, capable of competing at the forefront of modern technology, will depend a good deal on this decision. The French, Germans and Japanese are already busy 'talking us down' and excluding us from discussions on future space systems on the grounds that we have already opted out. I hope that, for the sake of some additional £100 M p.a. we shall prove them wrong and exercise our leadership both in the European programme and in getting our proper share of industrial contracts.

11. Finally, a word on the management of our national space programme. I believe that our support for, and performance in, space has suffered from the fact that although several departments have interests in space, none has overall responsibility for producing and funding a coherent national programme. Space is a good example of an area of strategic importance where the total national requirement is greater than the sum of perceived departmental requirements and, therefore, has to be addressed from the centre. Once the overall size and shape of the programme has been decided, and a national plan endorsed, I hope that its execution will be entrusted to a National Space Centre with a strong identity and a budget of its own.

12. I hope, Prime Minister, that you will find these arguments both constructive and persuasive and that, despite all the other calls on public expenditure, you will find it possible to sustain and enhance our national competence and influence in a field that is bound to become of increasing political, economic and strategic importance in the future.

Yours sincerely

John Mason
John Mason

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AEROSPACE

SPACE POLICY

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