

21 May 1984

PRIME MINISTER

US MANNED SPACE STATION - PRESENTATION BY MR KENNETH BAKER 22 MAY

Mr Kenneth Baker will be making a presentation to you on 22 May on the US Manned Space Station and the proposal from the US that European countries and Japan should participate in this project.

2. President Reagan's proposal in January was for an 8 billion dollar Manned Space Station to fly within a decade and having the following objectives:

- (a) to carry out scientific experiments in space;
- (b) to serve as a base for planetary exploration;
- (c) to offer manufacturing facilities in space, with particular emphasis on material processing;
- (d) to provide a manned earth observation station;
- (e) to offer facilities for the assembly and repair of satellites in space;
- (f) to enthuse young people on the capabilities of science and technology.

3. President Reagan invited other Summit countries to participate in this programme by adding to the capability of this space station additional modules, equipment, experiments, etc. NASA envisage contributions of the order of 2 million dollars from Europe and about three-quarters of a million dollars from each of Canada and Japan. None of this additional money would go towards reducing the cost to the USA.

4. It is difficult at this time to make an accurate cost benefit analysis for the activities which the Americans propose for the Manned Space Station. Much space science is better done from unmanned satellites while planetary exploration would not rank highly in the scientific priorities of European nations. Whilst it is certainly true that certain types of materials processing, eg for semi-conductor materials and novel pharmaceuticals such as Interferon, can be more easily done in a gravity-free environment, it is also true that advances in terrestrial technologies may make such sophisticated techniques unnecessary by the time the space station is launched. With the recent successful repair for the satellite Solar Max from the American space shuttle, it is perhaps the satellite assembly and repair capabilities of the space station which seem to be most advantageous. Overriding all these activities is the question as to the extent to which it will be possible to carry out most of the operations through robots in space without the need to build expensive facilities for man.

5. It will only be possible to clarify these uncertainties and come to a clear conclusion on the benefits of participation if Europe collaborates with the United States in the initial specification and design phases for the space station. This will involve nomination of experts from the public and private sectors to work alongside the Americans but at this stage very little expenditure. The Americans are insisting that the space station is a firm programme and it seems hardly feasible that European countries would wish to reject the offer of participation without the more detailed examination of the project made possible by participation in its early phase.

6. The reaction of the various European countries (and indeed of Canada and Japan) to the American proposal has been one of cautious welcome and this reaction is likely to be repeated when President Reagan raises the subject at the Economic Summit. The other Summit countries have larger space programmes than does the UK and naturally their initial reaction has tended to be an examination of how they can absorb their own future projects into the overall concept represented by the Manned Space Station. Thus France sees the project as an opportunity to move forward with its proposed Ariane V rocket which has the capability to launch heavier

satellites than the current Arienne IV. Germany and Italy have been examining how their jointly-funded Columbus project (which in turn was a development of their current Spacelab Scientific Station) could be fitted in to the Manned Space Station project. Generally there is a feeling in Europe that participation in the American programme should not be as a simple sub-contractor and subordinate to the Americans but involve something uniquely European which is complementary to the American facilities and compatible with them.

7. Ultimately Europe will need to decide whether to participate in the American programme and if so, at what expenditure level, or whether to concentrate on existing and currently planned indigenous projects. If Europe does collaborate with the Americans it will almost certainly be through the European Space Agency (ESA).

8. As far as the UK is concerned, our relatively small space expenditure at the present time makes it difficult to conceive how we can accommodate significant participation in the programme at the current expenditure level. Thus the options seem to be:

- (a) nil participation even if the rest of Europe goes ahead;
- (b) minimal participation within our present space programme, which would have to be on a "sub-contractor to the Italians" basis;
- (c) participation with other European countries on roughly a GNP basis, which would require significant (say up to £50 m per year) additional expenditure on space at the expense of some other activity.

9. Superficially there seems to be little relation between a manned space station and the various defence space programmes in the USA and Europe. The proposed orbit for the satellite (28½ degrees) is one designed for minimum launch cost and would not cover many areas of the globe of defence interest. Nevertheless, perhaps without realising this point, President Mitterrand has commented publicly on the need for a European defence space capability alongside any space station activities which it may undertake.

10. The expected timetable following this presentation will be:

(a) June 1984: brief discussion at the Economic Summit where the Summit countries will probably simply welcome President Reagan's offer to participate;

(b) July 1984: participation by European countries in the specification and design aspects of the programme;

(c) Autumn 1984: decision by the UK and other European countries on participation and degree of financial commitment.

I am copying this minute to Sir Robert Armstrong.

*RBN.*

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Chief Scientific Adviser

Cabinet Office  
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