

international partners who have an infrastructure of launch vehicles, spacecraft, tracking and data acquisition stations and all of the centres of expertise that these imply. But a partnership implies that each partner must contribute something of value that the other does not have. In Canada's case, this must be scientific expertise both in the field of knowledge itself and in the state-of-the-art instrumentation required to further advance that knowledge. Therefore, for Canada more than other nations, it is even more important to support the space science activity at a healthy level.¹⁸

Recommendation 7

The Committee recommends that the Space Science component of Canada's Space Program should be funded at the level of approximately 15% of the total Program budget and that the Program content should be determined through consultation with the Space Science community in Canada.

One of the reasons advanced in support of Canada's participation in Space Station is the prospect of using the space environment, and particularly the microgravity environment, to develop industrial processes for the production of novel and useful products. In the Committee's view this is a valid approach, but we question whether Canada has a sufficient reservoir of basic expertise in such areas as materials science to allow us to capitalize effectively on the opportunity. From the testimony we have heard, it is our considered opinion that microgravity research, for example, is at a very basic level at this time and that the designation, "User Development Program", is not appropriate to the reality of the situation. We believe that this aspect of our participation in Space Station should be reclassified as space science and that funding and management of this research should be included in the Space Science component of the Space Program.

Recommendation 8

The Committee recommends that the Space Station User Development Program should be integrated into the Space Science component of the Space Program.

The Committee believes that Canada's Space Program should have a specific component dedicated to the development of space technology. This component would be separate from the Space Science component but would build upon the basic scientific research carried out and coordinated by that group in government and university laboratories. Examples of successful Canadian space technology programs in the past are the satellite-communications technologies developed by the Department of Communications (DOC) and adapted by Telesat Canada in the Anik satellite series, and the development of the CANADARM Remote Manipulator System by Spar Aerospace Limited in collaboration with the National Research Council and DOC.

Major opportunities for technology development are implicit in Canada's participation in Space Station and in remote sensing. We believe that these activities should be managed in a single program with a funding level approximately equal to that recommended above for the Space Science component of the Space Program.

⁽¹⁸⁾ Professor R.P. Lowe, University of Western Ontario, Brief to the Standing Committee on Research, Science and Technology, April 30, 1987, p. 9.