

purposes such as charting, and monitoring of agriculture, forestry, and environmental disasters or degradation.

If the expected reductions in the size of conventional armed forces in Europe takes place, and the improved nature of international relations persists for a few years, there will be less need to maintain substantial numbers of the Canadian Armed Forces in a posture able to react to adverse world developments on very short notice. But it will be necessary to retain the professional capability to understand, assess, operate, and maintain high-technology military systems and, to expand if and when the need arises in the future. A sensible method of doing this will be to procure and use equipment and employ the personnel for purposes that are of national importance, though possibly in support of security or other national requirements that are not strictly or even partially military, as long as they are sufficiently related to military roles to maintain the skills needed for a return to purely military roles. One family of tasks eminently suited for such tasks is surveillance.

At this stage in the rapidly developing technology of spaceborne and airborne surveillance, it is not possible to identify with any confidence exactly which capabilities should be sought, or which would be the best systems to purchase in order to fulfil the requirements. Even less is it possible to make worthwhile estimates of the costs of various candidate systems. A considerable gap exists between the present stage of knowledge and the engineering designs that would be needed before analyses of costs and effectiveness could be made. It is clear, however, that any system based in space is going to be very costly, with a billion dollars buying no more than one or two satellites.

In these circumstances there could be much merit in Canada's taking an experimental approach. As well as producing high resolution imagery of the surface of the earth, of great value for many purposes, primarily civilian, RADARSAT should provide essential experience in the operation of space-based synthetic aperture radar over the Canadian North. Parallel development of sensors able to detect small moving objects at long range could lead to an experimental spaceborne or airborne system designed to investigate cost-effective application for air defence and air traffic control.