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Issue 4: From the Guest Editor: Satellite Communication in Canada

W.M. (Mac) Evans

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Issue 4: From the Guest Editor



Welcome to the 4th edition of the Online Journal of Space Communications. This issue focuses on Satellite Communications in Canada, one of the leading countries in the development and use of Satellite Communications. In this issue you will discover why Satellite Communications is so important to Canada, what its major programs are, who the main players are and what the future directions are likely to be.

Canada is the second largest country in the world, has the longest coast line, and has one of the smallest population densities of any country (3 people/square kilometer). These geographic and demographic facts have always made communications technology and services essential elements of the national infrastructure. Prior to the Space Age, Canadian scientists and engineers became world-leaders in understanding and harnessing the ionosphere as a key element in long distance communications. They did so because communications into the Canadian Arctic had to rely upon a very dynamic ionosphere caused by the sun's interaction with the North Magnetic Pole located in Northern Canada. Thus, it is not surprising that at the dawn of the Space Age, Canada decided to use this new technology to study the ionosphere from above in order to understand better how to use the ionosphere as a tool in effective long distance communications. And so it was, in 1962, that Canada's first satellite, Alouette 1 was launched, making Canada the third country in the world to have its own satellite.

Canada was quick to grasp the significance of the geostationary orbit for providing effective communications from coast to coast to coast. Ten years after the Alouette 1 launch, Canada instituted the first domestic geostationary satellite communications system with the launch in 1972 of the first of Telesat's Anik A satellites. This system provided, for the first time, high quality voice and television services to the rural and remote areas of Canada. Since then, Telesat has pioneered commercial satellite communications in new frequency bands (Ku and Ka) and was the first company to provide direct broadcast satellite TV. So far, Telesat has launched a total of 14 satellites to meet the growing demand for communications services in Canada.

The advent of satellite communications allowed the Government of Canada to adopt a policy that every Canadian, no matter where he or she lives, should be provided access to the same level of communications services. This policy has

been supported by the R&D efforts of the Communications Research Centre and the applications development programs of the Canadian Space Agency. These Federal Government organizations work closely with Telesat, the university research community and a large number of companies in the development and demonstration of new satellite communications technologies and applications. The resulting partnerships among the government, university and industrial communities is one of the driving forces behind Canada's success in developing and using Satellite Communications to meet the needs of its citizens.

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W.M. (Mac) Evans