

SMALL SATELLITE MISSIONS SYMPOSIUM (B4)
Small Satellite Operations (3)

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ANTARCTIC BROADBAND - A MICROSTALLITE NICHE

Abstract

The Antarctic Broadband consortium has commenced development of a broadband satellite communications service aimed at meeting the data transfer needs of the Antarctic community. The project has been supported through the Australian Government's new Australian Space Research Program (ASRP) with the aim of building capacity and expertise in the design, implementation and support of small-satellite communications systems in Australia.

High bandwidth communications is the largest sector of the commercial satellite industry and while micro-satellites are yet to service this market, they are expected to start to play a role in the near future. The first applications are likely to be in niches that cannot be serviced by traditional communications satellites or terrestrial services.

Antarctica is one such niche and Antarctic communication needs are increasing rapidly with a high rate of growth in climate change-related research, astronomy and other activities across the Antarctic continent. Traditional space and terrestrial communications solutions will not be able to meet these needs in future due to the inherent orbital limitations of geostationary communications satellites, the remoteness and harsh environment of the Antarctic continent and the limited market size.

This paper presents the Antarctic Broadband system, describing the unique requirements of this market niche and how they can be addressed using micro-satellites.