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THE PROSPECTS FOR SMALL GEOSTATIONARY COMMUNICATION SATELLITES FOR THE
COUNTRIES OF ASIA-PACIFIC AND SOUTH AFRICAN REGIONS: WAYS FOR THE DEMAND
MEETING

Abstract

The paper contains a description of the demand for satellite communication services covering a limited areas in certain countries, mostly not far from the equator, as in the Asian-Pacific and South African Regions, for meeting the needs of either the countries' state bodies (for example, MoDs), or domestic companies. It is explained why these users would prefer, for certain national considerations, to have their own small satellites rather than lease the separate transponders of the geostationary communication satellites of foreign owners. Due to the requirement to service only limited areas, the demanded communication satellites would have a minimum number of transponders i.e. they should be attributed to the category of small geostationary communication satellites, with an in-orbit mass of less than 1 ton. A preliminary analysis of the supposed demand for this type of satellite in the Asia-Pacific and South African Regions is presented and an attempt is made to make a quantitative assessment of this demand for the period from 2012 to 2020. The general design of small GEO satellites is described as well as some existing examples and the plans of Surrey Satellite Technology Ltd. for building this type of satellite in the near future are presented. The preference for dedicated launch missions for the launches of small GEO satellites is demonstrated. A brief analysis of the suitability of current and expected launch systems for the economic provision of this sort of mission is made. The Russian 'Air Launch' Space Transportation System is briefly described and its advantages for the mission provision is shown by a comparison with competing launch vehicles and systems.