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HOSTED PAYLOADS ON COMMERCIAL SATELLITES

Abstract

This paper presents researches conducted on the significance of hosted payloads on commercial satellite platforms for small satellite missions mainly for government institutions which in most cases operate under the constraints of budget.

Despite the availability of the technology, access to space has been unaffordable for government agencies and institutions due to budgetary limitations. The launching of dedicated satellite missions needs huge financial investments. The cost of manufacturing the spacecraft, financing the launch vehicle cost, building ground support facilities for the mission and other related costs to develop the technology add up to make access to space an expensive asset. So how could access to space be viable for institutions that run missions under budgetary constraints and how are satellite manufacturers and government institutions responding to this innovative solution to adopt in their space programs?

After identifying the problem statement different research methodologies have been carried out to show up how hosted payloads provide cost effective access to space at a relatively faster time. The experience of satellite manufacturers, satellite operators, international consultants, government institutions and organizations working on the subject matter have been benched marked to draw up the conclusions.

For many years satellites were designed to carry payloads only related to the primary mission of the spacecraft. But now an innovative solution of attaching secondary payloads to perform missions unrelated to the primary mission is becoming evident where missions can be realized in cost and time efficient manner. These secondary payloads which are normally referred to as Hosted Payloads are attracting the attentions of both government agencies and commercial satellite operators. For government agencies doing everything with dedicated satellite missions is unrealistic where there are limited budgets in many cases.

As compared to dedicated missions hosted payloads offer the easiest and fastest means of access to space at reduced costs. Government entities should take advantage of this to accomplish small targeted missions. Likewise commercial satellite operators will have a way to market their excess capacity that exists on their spacecraft. And nowadays satellite manufacturers and operators are engaging the notion of hosted payloads in the development of their satellite programs.

This paper has also assessed all the potential applications, limitations, operational requirements, challenges and risks related to the hosting of payloads on commercial satellite platforms and the mutual benefits that both the satellite operator and the hosted payload customer could derive from such programs.