

19th SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)  
Access to Space for Small Satellite Missions (5)

Author: Mr. Joost Elstak

ISIS - Innovative Solutions In Space B.V., The Netherlands, J.Elstak@airbusDS.nl

Mr. Abe Bonnema

ISIS - Innovative Solutions In Space B.V., The Netherlands, a.r.bonnema@isispace.nl

Mr. Jason Andrews

United States, jandrews@andrews-space.com

A ROUND THE WORLD TICKET FOR YOUR SMALLSAT

**Abstract**

This paper will discuss an update of the successfully created global launch service for small satellites by ISL in the Netherlands and Spaceflight Services in the US.

As such, the authors will provide an overview of:

- the changing launcher playing field;
- new (commercial) launch providers enter the field on both sides of Atlantic
- new countries and entities getting involved in satellite development.
- the practical goals and challenges;
- how to get US satellites on board Russian, Indian, and other foreign launches
- how to get European and other foreign satellites on board US launches
- the opportunities and challenges in creating a worldwide small satellite launch ‘pool’

As a practical example, the authors will discuss the arrangement of a launch for a US CubeSat on board a Russian launch vehicles, as well as the arrangement of the launch of several non-US CubeSats on board a Falcon-9 launch late 2012. These arrangements involve a strong partnership and between ISIS / ISL in the Netherlands and Andrews Space / Space Flight Services in Tukwila, WA.

There are many complicating factors in ‘arranging a ride’ for your small satellite. These can be technical and programmatic mismatches between the available launch opportunity and the small satellite mission objectives and planning. But more often these complicating factors also relate to regulatory and legal restrictions, political considerations, lack of standardization or a mismatch in requirements and expectations between the small satellite developer and the launch provider or primary customer.

As a result, in practice it is actually quite difficult to find an available, affordable launch opportunity for a small satellite. And when one is found, lead times to launch can be quite long, as many small satellite developers in the US are currently experiencing. In other words, there is a strong demand to significantly increase worldwide access to available, affordable launch opportunities on which small satellites could piggyback and dedicated small satellite launches.

The ultimate goal is to be able to offer an airline-model derived ‘ticket to space’ approach, allowing satellite developers to purchase a launch for their small satellite as they require, varying from lower cost launches in exchange for less stringent orbit and schedule requirements to a more demanding service level at a premium. The most important step towards this approach is to provide a global launch service offering, like ISL and Spaceflight Services have now initiated.