

IAF SPACE OPERATIONS SYMPOSIUM (B6)  
Large Constellations & Fleet Operations (5)

Author: Mr. James Dingley  
Massachusetts Institute of Technology (MIT), United States, jdingley@mit.edu

WINNING THE INTERNET: COMPETITIVE STRATEGIES FOR THE AGE OF MEGA SATELLITE  
CONSTELLATIONS**Abstract**

Satellite-based internet is an extremely important high growth industry with numerous competitors both old and new. While much research has been conducted regarding cost reduction and revenue management strategies, very little has considered the effects of competition. Understanding the dynamics of the satellite internet market is essential for corporate strategy and directing investments.

This paper presents and demonstrates a tool for modeling the satellite competitive environment in the new age of mega constellations, characterized by dozens of operators servicing billions of customers. First, a review of existing literature is conducted to understand and quantify the demand for satellite internet by a range of customer segments. Next, a physics-based supply tool is created to estimate the capacity of existing and planned satellite internet constellations. Finally, a bidding-based optimal allocation routine is built to assign customers to these operators while considering operator capacity and customer requirements. This tool is shown to facilitate the analysis and testing of operator behaviors, such as supply, price, and cost, useful in formulating competitive strategies.