

BUSINESS INNOVATION SYMPOSIUM (E6)
Case Studies and Prizes in Commercial Space (1)

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CARAVAN - FINANCIAL MODEL FOR ON ORBIT SERVICES

Abstract

Satellite communications markets continue to push the launch industry past the 7 ton to GTO (geosynchronous transfer orbit) barrier. The CARAVAN orbital tug system addresses this need by replacing the upper stage element of satellite delivery enabling operators to double their present payload dry mass. Transferring satellites from low earth orbit to their operational location, debris mitigation, reboost services are a few of the projected markets. Direct insertion allows manufacturers to eliminate risky propulsion systems and reliance on inflated launch prices.

The CARAVAN financial model utilizes the OASIS spaceport network incorporating water launched from Earth to a low orbiting depot. With multiple market opportunities creating a robust cost structure, the projected 800 million dollar investment will prove sound. Starhunter Corporation illustrates its cash flow and market analyses, as well as the development and deployment costs of the CARAVAN.

The choice of this innovative technology, CARVAN, creates a compelling business model for the overall space industry, including manufacturers, launchers, operators and service providers. The related business plan presented will illustrate a clear investment opportunity with transparent justifications for satellite operators. Each meter per second of velocity will correspond to a real cost. The multiplied payload capacity permits development of additional value-added services (e. g. mobile and transportable advanced broadband services), higher market value of the orbital position and related use of spectrum; and an overall sounder source of in-flow revenue.

The paper will conclude providing a comprehensive set of policy recommendations for the implementation of CARAVAN in the main national and international space technology roadmaps in order to reach a self-sustainable space industry. Required advanced technology of CARAVAN will enhance macro-economic return in terms of innovation and other public policy goals belonging to every space agency.