

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)  
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ON THE DEVELOPMENT OF RAFTI: A COMMERCIAL IN-SPACE REFUELING VALVE

**Abstract**

The current state of the art for Satellites with storable propellants is one-time propellant tank use. This has numerous downstream effects in satellite design and operation. To benefit space sustainability and upend the current single-use paradigm the Orbit Fab team has developed an in-space fueling valve. This in-space fueling valve is a novel design to address the rigors of Ground and In-Space Fueling Operations. The successful valve development and qualification will be described, and lessons learned will be reviewed. The future development of the in-space valve to enable expanded capabilities will be highlighted.