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FIREFLY – A NEW GENERATION OF LOW COST, SMALL LAUNCH VEHICLES DESIGNED TO
SERVE THE RAPIDLY GROWING SMALL SATELLITE MARKET

Abstract

In an ever evolving space industry where small satellites are recognised as representing the largest growth area in the market, the need for launch vehicles and associated services aimed primarily at small satellites and their specific requirements (technical, economic and programmatic) is clear. The ‘Firefly Alpha’ vehicle has been designed to cater specifically for small satellites, having the capability to launch up to 400kg in Low earth orbits, with option to launch single payloads, multiple small payloads (e.g. cubesats) or combinations of the two. The Firefly Alpha vehicle is intended to be the first of a series of small launch vehicles, and roadmap is in place to introduce larger vehicles (that are still primarily targeted at small satellites) over the next 5 years, with re-usable elements also to be phased in. The paper will describe the Firefly Alpha vehicle in detail in terms of design philosophy, performance, technologies used and the development plan being followed, and will specifically include details on how it will support deployment of small satellites singly, and in groups, across the planned range of Firefly vehicles.