

IAF SPACE SYSTEMS SYMPOSIUM (D1)
Space Systems Engineering - Methods, Processes and Tools (1) (4A)

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PLANET QUALIFICATION LAB : LEVERAGING MODULARITY AND AUTOMATION TO MASS
PRODUCE SATELLITES

Abstract

Over the Past 10 years, Planet has developed, manufactured and launched the largest constellation of earth observation satellites, currently operating over 200 nanosats and 20 microsats in low earth orbit. All Planet Doves and Superdoves have been produced at its headquarters in the heart of San Francisco, California.

Planet is fully integrated across all verticals, from research development to manufacturing and satellite operation everything is done in house. Planet Qualification Lab and its team are playing a key role in that process, being at the crossroads of every department of the space system divisions.

Their role, in addition to providing testing capability, is to act as a synchroniser between all the teams and make sure they are all working toward a manufacturable system that can integrate into a spacecraft able to accomplish its mission while also being compatible with launch provider requirements and international regulations.

To accomplish its mission, the Qualification lab has to cover a wide range of activities while also being able to quickly adapt to a very dynamic planning often on a tight schedule. Those factors led to the development of a very modular test infrastructure, able to be quickly reconfigured and used by a wide variety of individuals with very different backgrounds.

This paper describes the infrastructure and systems that were designed to support the operation of Planet Qualification labs. It describes the role of the Qualification Lab and its team as part of Planet space system division, and discusses the infrastructure and systems that were developed to support its operation including remote operation and automation.