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BEYOND JUST RULES: HOW TO INCENTIVISE AND INSPIRE THE RESPONSIBLE AND
SUSTAINABLE USE OF SPACE

Abstract

It is acknowledged that the ‘rules’ on the use of space have not kept pace with the development and ever expanding set of applications that space is used for. Space is a precious and valuable resource that needs to be preserved and managed so that it is available for future generations. Policies and guidance are being revised but there is not a unified set of regulations that applies globally.

Although access to space has improved and the price point reduced with the advent of small satellites (SmallSats) and CubeSats, this has led to a proliferation of developments and implementations which have a varied approach to robust design, collision avoidance and debris mitigation. There isn’t a one size fits all approach which means good design practices implemented in one satellite could be undermined by a lack of good practice in another.

This paper explores a number of ways to incentivise and inspire the responsible and sustainable use of space, taking into account the ever present constraints of available funding and timescales. It presents the Next Generation Microsatellite Platform (NGMP) as a robust platform architecture option that encompasses the 25kg to 250kg class market space. The NGMP has robustness, collision avoidance and deorbiting built in as key tenets to its design, along with being performant but at a price point similar to a CubeSat.

The paper also explores the exciting and interesting development of the Open Source Satellite (OSSAT) Programme. This Programme is unique and unlike anything that currently exists within this sphere in the space industry. It has two main aims – the first is to allow the sharing of the OSSAT, which is the baseline NGMP product and the second is building a community whose focus is the responsible and sustainable use of space. It is felt that this two pronged approach, to having a community to educate and promote the sustainable and responsible use of space as well as the actual technology to realise this aim, changes this aspiration from something that just looks good on paper to something that is actually tangibly realisable.