SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
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EFFICIENT PRODUCTION ENGINEERING FOR THE MANUFACTURE OF GALILEO PAYLOADS

Abstract

Galileo is one of four satellite constellations where SSTL has played a key role in the development. The other three constellations are the Disaster Monitoring Constellation (DMC) of nine satellites which was created through a series of launches starting in 2002, the RapidEye commercial imaging constellation of five satellites launched together in 2008 and the DMC3 constellation of at least three high resolution imagers to be launched in 2014.

When designing and building a satellite constellation there are many efficiencies of scale that can be exploited by the prime contractor and the suppliers to reduce the cost of the individual satellites.

Firstly, there is a saving in procurement costs when purchasing multiple sets of equipment. Secondly, extra effort can be brought to bear in the design phase to make sure that the assembly can be performed efficiently. Thirdly, automation of testing can be planned from the start so that effort and time in the testing phase can be reduced.

During the DMC and RapidEye projects, SSTL modified its processes so that these efficiencies were realised. We are now honing these skills to ensure that the Galileo satellites can be produced efficiently and quickly at a rate of 1 satellite every 6.5 weeks.