

## ABSTRACT

### Next Generation NovaSAR Development

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The NovaSAR program builds on the synergies between SSTL and Airbus Defence and Space in the UK to translate their expertise to small satellite based synthetic aperture radar. The UK government has supported the development of the first spacecraft in the series, and further satellites are planned. The current system works in S-Band and focuses on applications including maritime monitoring and forestry.

The roadmap for the development of this program may take a number of different avenues. One possibility is the modification of the antenna array to realise improvements in the payload performance. Another is the modification of the platform to reflect mass reductions made in other SSTL platforms, the X-Series. Alternatively, the system could be modified to allow operation at X-Band, the shorter wavelength offering different physical observables. Airborne testing has been performed at both S and X band to investigate and demonstrate the differing potential data products. Each of these alterations has varying advantages, disadvantages and impacts on the concept of operations, the possible applications of the data, the payload imaging modes and other aspects of the mission and system. The system changes are presented and discussed.