

## 11.5m SSXXK Full Motion, the existing Tri-band antenna in Neustrelitz gets a sister.

Vertex is proud to announce that a contract has been signed with DLR to provide a second 11.5m Tri-band antenna in Neustrelitz.

Modern geospatial imaging satellites enable the provision of up-to-date imagery to the public through the media and internet. Improvements to earth monitoring satellites and the very high resolution data received from these satellites, result in very large data files and a requirement for wide band pipe for the transmission to the receiving earth stations. These large bandwidths cannot be provided by the regular allocated slot in X-Band. The only way to increase the bandwidth of the downlink is the exploitation of K-Band (25.5–27 GHz).

Vertex Antennentechnik (VA) has developed a tri-band full motion Antenna System with 11.5 meter diameter which incorporates S-, X- and K-Band. This multiband Antenna, that is optimised to provide the maximum performance for aperture efficiency and sidelobe performance in all three bands simultaneously. In addition to the receive capabilities in S-, X- and K-Band, the new antenna will also be equipped with transmit chains in S-, and X-Band enabling transmission of Telecommand carriers towards LEO satellites. The System is equipped with a VA Monitoring and Control with Multi Mission Scheduler.



Thanks to its accuracy and Monopulse tracking capability in all bands with travel speeds of up to  $16^\circ/\text{sec}$ , the two VA tri-band antennas will ensure fast and uninterrupted access to important data from LEO satellites down to an altitude of 400km.

This [paper](#) discusses some advantages and design considerations and highlights the overall performance of a novel tri-band Antenna system for Remote Sensing (RS) applications which has been commissioned in 2016.