

# **A BRIEF HISTORY OF THE GERMAN COMMERCIAL SPACEBORNE RADAR ACTIVITIES**

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**KEY WORDS:** DEM/DTM, Interferometer, Radar, SAR, Satellite

## **ABSTRACT:**

More than 10 years ago Infoterra has started its activities in the field of airborne SAR surveys. In those days the market was dominated by optical imageries and only a few SAR, either airborne or spaceborne systems were operational. With the back-up of the shareholder of Infoterra, Astrium GmbH, and the German Aerospace Center (DLR) a new and out-standing SAR space mission was initiated, designed, and brought to operation. The high-resolution radar satellite TerraSAR-X is now operational and since 2007 in the orbit. In combination with the cloud penetration capability, the day light independence and high resolution 1 m mode new products have been created to address different customer needs: High resolution imagery for geospatial intelligence, subsidence maps to monitor oil production, coherent change maps for migration control, only few samples of the vast applications portfolio. Not only German knowledge was involved in this program, partners and competitors all around the world have been invested in new technology. And today, the twin satellite TanDEM-X will be launched this year and together with TerraSAR-X, the mission will be the first close flight formation in space. The two satellites form a SAR interferometric antenna and will be able to operate simultaneously as a so-called Single- Pass Interferometer. The result: the total coverage of the Planet Earth with a Digital Elevation Model with height accuracy better than 2 m. But this will not be the final end of the German SAR activities. With regard to gained experience, the increasing demand for radar imagery the SAR line will be continued with TerraSAR-X-2 and/or other types of radar satellites.

**TOPIC:** Microwave remote sensing

**ALTERNATIVE TOPIC:** Not Specified