[Volume XL-3/W2](#)

WORLDDEM – A NOVEL GLOBAL FOUNDATION LAYER

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Abstract. Airbus Defence and Space's WorldDEM™ provides a global Digital Elevation Model of unprecedented quality, accuracy, and coverage. The product will feature a vertical accuracy of 2m (relative) and better than 6m (absolute) in a 12m x 12m raster. The accuracy will surpass that of any global satellite-based elevation model available. WorldDEM is a game-changing disruptive technology and will define a new standard in global elevation models.

The German radar satellites TerraSAR-X and TanDEM-X form a high-precision radar interferometer in space and acquire the data basis for the WorldDEM. This mission is performed jointly with the German Aerospace Center (DLR). Airbus DS refines the Digital Surface Model (e.g. editing of acquisition, processing artefacts and water surfaces) or generates a Digital Terrain Model. Three product levels are offered: WorldDEMcore (output of the processing, no editing is applied), WorldDEM™ (guarantees a void-free terrain description and hydrological consistency) and WorldDEM DTM (represents bare Earth elevation).

Precise elevation data is the initial foundation of any accurate geospatial product, particularly when the integration of multi-source imagery and data is performed based upon it. Fused data provides for improved reliability, increased confidence and reduced ambiguity. This paper will present the current status of product development activities including methodologies and tool to generate these, like terrain and water bodies editing and DTM generation. In addition, the studies on verification & validation of the WorldDEM products will be presented.

[Conference Paper](#) (PDF, 998 KB)

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