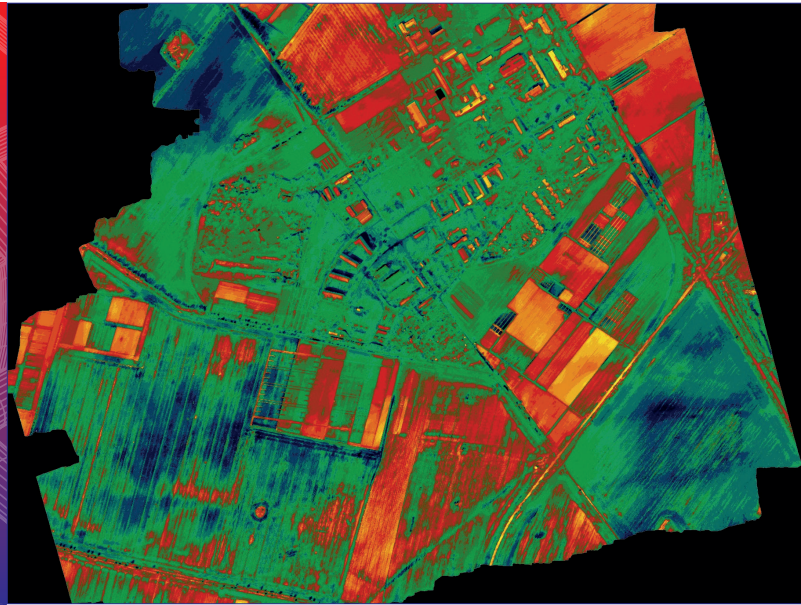


Aero Oblique System AOS-Tx8



**HOCHSCHULE
ANHALT** University
of Applied Sciences



Airborne 3D thermography for building & landscape monitoring

The need

The development of digital twins requires a new generation of data for application-specific 3D visualizations and analyses, e.g. as a basis for planning or for communication purposes.

In practice, area-wide thermal data (e.g. from an urban area) is currently provided as 2D data sets as part of aircraft campaigns. In this case, information can be collected in the plane (e.g. roads) or from roof surfaces. For the provision of thermal 3D object information (e.g. also of building facades), oblique images and complex flight planning are required. Due to the measures for municipal energy and heat planning as well as the development and monitoring of climate adaptation strategies for urban areas, spatially high-resolution thermal data provide an observation-based data basis (e.g. also in addition to simulations).

Acquisition of 3D thermal data of urban areas AOS-Tx8

The AOS-Tx8 is a sensor system for the airborne acquisition of oblique images with four thermal and four RGB cameras. Data products are thermal 3D object models, e.g. of urban

areas or landscapes. The sensor configuration enables efficient flight planning and data acquisition, as several viewing directions are captured simultaneously in one image strip. The AOS-Tx8 can be used in aircraft, gyrocopters or helicopters with stabilizing platforms such as GSM up to 2000 / 3000 / 4000 with an internal diameter of at least 390 mm. Common flight management systems can be used to control the AOS-Tx8.

Remote sensing & photogrammetry

Anhalt University of Applied Sciences has various state-of-the-art technologies for the provision of imaging airborne remote sensing data. These include in particular imaging spectrometers (400 - 2500 nm, DFG INST 458/31- 1) and an FTIR spectrometer (DFG INST 458/55- 1) in the long-wave infrared (7.4 - 12.8µm). The sensors are used in various research projects in the field of basic research and application transfer.

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