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Aerial Lidar Mapping: a Brief by James Blee

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Lidar stands for Light Detection and ranging. Aerial lidar is defined as the type of technology actually used intensely in the realm of remote sensing. It is very much capable of quickly or rapidly generating geographical-reference of digital elevation data, high-density with high accuracy that is equivalent to any traditional type land surveys. However, it is significantly a faster process combined with the traditional type airborne surveys.

Things you need to know about Airborne Lidar Mapping

The airborne Lidar mapping functions by using a pulse laser type rangefinder that is mounted on the aircraft. It is specially used to measure the distance from the air to the ground. The process is completed by recording the time that is taken by the laser pulse to actually reflect backlight to the aircraft from any ground area, which can be a building or power lines or trees.

Here the speed of light is accurately surveyed and determined by the surveyor and so he uses the elapsed time to convert to any accurate distance or to any slant range. Some instruments are used to actually and accurately record the multiple returns that are flashed from the single laser pulse to captivate the vertical profile used along the slant range.

Rotating or scanning mirror is used in case of aerial lidar to provide extensive coverage across the whole path of the aircraft with varying swath widths that are dependant on scan angles or the operating altitude. In the process, the inertial measurement type subsystem help in recording the roll or pitch or the direction of the aircraft to determine the orientation of actual space. At the same time, the GPS subsystems help in providing accurate location or position of the aircraft.

At the time of post-processing, the GPS position and orientation solutions are combined with the readings of laser slant ranges to calculate properly the XYZ coordinates in case of every laser return.

Thus, after reading through, you will know the detail understanding of airborne lidar mapping.

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For more information on a airborne lidar, check out the info available online at
http://www.lidarus.com

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