

PRESS RELEASE

For Immediate Release

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True Terrain Following available for professional drone surveys and inspections

Riga, Latvia - April 15, 2019 - **A new solution for UAS allows for accurate terrain following without the need to rely on map data.**

With the help of a proprietary UgCS data logger and a laser altimeter, SPH Engineering has solved a problem that has been troubling the drone industry for quite some time: how to follow terrain without compromising effectiveness and precision.

The new integration solution is especially significant for inspections, mining, engineering, agriculture and environmental industries where ground penetrating radars or analysers are used or where being able to fly over objects at a particular height is crucially important for other reasons. As this usually requires flying them above the ground at a very precise height, rough estimates are not good enough. Previously, digital elevation model (DEM) data was essential to do this; however, this is often not available for a given region or is not sufficiently accurate. For example, if a drone with a ground-penetrating radar needs to be flown at a height of one metre, but the precision of the available data is three metres, the data is of no use for this purpose.

However, having too much information can be as problematic as having too little. LiDARs nowadays can create extremely accurate terrain maps by providing a precision level of up to one centimetre. As good as this sounds, for drone mission planning, this would mean including too many waypoints. As the waypoints need to be loaded onto the drone in batches of no more than 99 at a time, following a LiDAR-mapped area of terrain with the necessary precision would involve flying over the area time and time again.

SPH Engineering has solved both of these issues by gathering and using terrain data on the go. The laser altimeter gathers an uninterrupted data flow by measuring the flight time of a short flash of infrared laser light as it bounces back off the surface of the terrain, while the UgCS data logger adjusts the drone flight height accordingly. As it uses actual and not pre-existing data, the mode is called True Terrain Following.

All of this, together with the UgCS software, allows for hassle-free drone mission planning with uncompromised flight height precision. The operator just needs to set the desired flight height and speed, and activate the True Terrain Following mode. The function is currently available for DJI M600/M600 Pro drones and can also be used with custom drones based on DJI A3 autopilot. More details are available at industrial.ugcs.com/ttf.

Discover industrial solution and True Terrain Following <https://industrial.ugcs.com/ttf>
Videos of GPR-drone integrated system with Laser Altimeter: <https://youtu.be/HuR1KLhVltw> and <https://youtu.be/xVtMJKzG2uM>.

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About SPH Engineering | Industrial Solutions

SPH Engineering is the world's premier software developer and integration services provider for unmanned systems. It's known best for its drone mission planning software UgCS, Drone Show Software for creating astonishing drone shows and UgCS for Command Centre for live mission monitoring, as well as its integration services. SPH Engineering's industrial drone-based integration solutions include software and data logger integration with methane detectors, laser altimeters, metal detectors and Ground Penetrating Radars for a wide range of industrial applications. It's UgCS software provides a complete toolset for safe and efficient UAV land surveying and industrial inspections, including custom elevation data importing, Photogrammetry and Geotagging tools, LIDAR, Magnetometer and GPR linear and aerial survey planning tools with terrain-following mode. <https://industrial.ugcs.com/ttf>