

# Voyager



With the rise of Terrestrial Laser Scanning a decade ago and more recently Unmanned Aerial Systems (UAS), which are also called drones, the differences between how geodata is obtained by the surveyor in the field and by the photogrammetrist are fading. Conventionally, the crisp boundary separating the tasks of these two practitioners is as follows: the surveyor uses GNSS devices, mobile GIS handhelds, total stations and other tools while walking through the real landscape to collect the coordinates of characteristic points of features of interest. The photogrammetrist pushes buttons to digitise coordinates while sitting in the office in front of a Digital Photogrammetric Workstation (DPW).

Today's photogrammetric software allows the highly automated creation of virtual landscapes. Added to this, the recent rocketing in popularity of UASs offers an alternative to surveying in the field. The data necessary for creating virtual landscapes can now be acquired from the air without requiring a huge budget. For the first time in the long history of photogrammetry, small areas can now be reliably captured by aerial surveys for an affordable price. By overlapping images, Digital Elevation Models (DEM) and orthomosaics – which are images with the geometric properties of topographic maps – can be generated highly automatically. An orthomosaic draped over a DEM results in a virtual 3D landscape which can be observed from many viewpoints and at many levels of detail by zooming and panning. From the comfort of an office chair, the surveyor can measure coordinates simply by clicking with the mouse. All this has become tangible because of the rapid advances in micro-electronics and subsequently sensor technology.

When the use of a new technology burgeons, citizens and professionals alike may feel concerned and even threatened. What does the use of drones by the military, homeland security and the police mean for the right to privacy? Today, discussions on violation of rights and legitimacy are tumbling over each other in the public domain. In terms of geomatics, practitioners may fear that new tools could lead to the extinction of their profession, since laymen will be able to take over their jobs. The sentiment that a new type of device presents a threat rather than an opportunity is nothing new. Let us subdue those primal feelings. The production of geoinformation consists of many actions, and the entire chain cannot be conducted blindly. Indeed, anybody can collect geodata, but the core challenge is to arrange the individual steps such that the quality of the end product is ensured while entailing a minimum amount of time and money.

Tools, skills and knowledge are the tripod of any proper geodata acquisition. Anyone can purchase the tools, but skills and knowledge demand huge investments in time and brain power to absorb the theory and to gain skills. Tools are the aid, but knowledge is the golden key. Undertake the voyage.