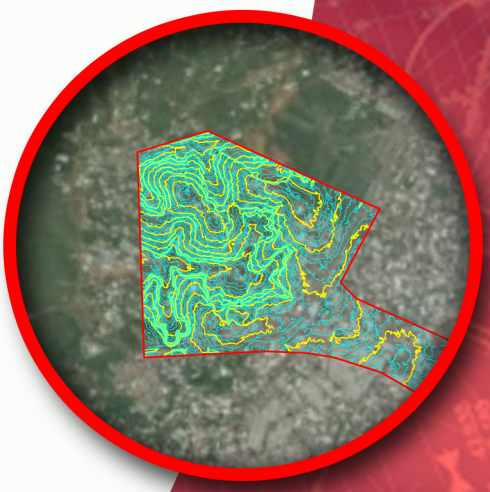
Lidar & Drone

LIDAR SURVEY

LIDAR-photogrammetric survey, using helicopters, is the best technology to detect large surface areas, even more to detect road infrastructure. While originally intended for the detection of avalanches, this LIDAR-photogrammetric system is compact and easily manoeuvrable and applies to any type of project with extensions up to 50 000 hectares.
LIDAR is a revolutionary tool for environmental management, territorial and natural hazards planning. The high measurement frequency of LIDAR (several tens of thousands of points per second) allows obtaining a density of measurement on the ground (3-60 points/m2) that is inconceivable for conventional photogrammetry. This density allows to model extremely fine details, thus being able to realize plans up to 1/500. Through the registration of multiple returning echoes, it is possible to simultaneously measure hard surfaces (land, buildings) but also aerial elements such as cables, pylons and vegetation.
The penetration of LIDAR in the vegetation cover is significantly higher than the photogrammetry. This because in order to have a measured point on the ground, LIDAR requires only one beam, while photogrammetry requires two (2) beams. Adding to this feature also the high measurement frequency of LIDAR, the possibilities of obtaining points on the ground under vegetation are considerably higher. The winter period is therefore the most favourable for measurements.
In addition, the image remains an essential support of aerial cartography and the combination with LIDAR allows obtaining the best of both techniques:

- automation, high-density of measurement, penetration of LIDAR in the vegetation
- high resolution (2-10cm), thematic interpretation and classification, orthophotos, complementary stereoscopic measures (lines, specific points) for photogrammetry

Data are post-processed and LIDAR is "filtered" by a classification software in order to separate the terrain (DTM) from land cover (vegetation, buildings ...).
The images are automatically aerotriangulated and thus orthorectified on the basis of the produced LIDAR DTM.
On the basis of these data, many elaborations including 3D modelling of elements (road objects, ditches, level curves, contours, profiles, classification, etc.) can be carried out at any point of the overflown surface.
Thanks to our expertise in acquisition and processing of LiDAR and photogrammetric data, we provide complete services.



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