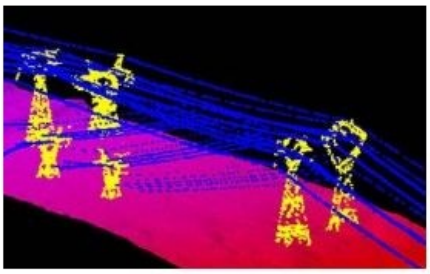
Topocart Aerial Transmission Line Surveying Project



Topocart, Brazil, has pioneered the application of aerial photogrammetry combined with laser profiling for section surveys to meet the design needs of transmission lines. Despite the extensive experience in conventional topography, the surveys necessary for implementation of transmission lines from power plants that make up the Madeira Complex had serious environmental restrictions for opening of clearings, especially in the Amazon region.

These restrictions would jeopardise the implementation schedule of the lines, since only the conventional topography would not be completed in time needed to begin transmission. Topocart undertook to perform surveys of almost 1,500 kilometres, on schedule. For this it innovated, with the use of aerial photogrammetry and laser profiling associated with topography. The result was a success and this methodology has become not only accepted, but also required, mainly by IBAMA, because besides the data needed for the project, the surveys provide accurate data to the established environmental demands, such as the height of the vegetation that the project section crosses.

With this experience and with the help of this technology, several sections from various extensions and most diverse Brazilian biomes have been surveyed since 2009, adding until today more than 3,000 kilometres already implemented, whose sections are in final construction. Engineering knowledge was also aggregated in simulations of occurrences of natural phenomena, such as the balance of the cable affecting large trees outside the range and tipping of trees over these cables of LT already built and their impacts on the operation.

Consolidating this success, Topocart just signed on to map almost 2,000 kilometres of sections for transmission line projects. To meet the tight deadlines of the project, over 50 professionals will be involved, including engineers, technicians and staff, plus two suitably equipped aircrafts with laser sensors and photogrammetric surveying equipment, geodesic GPS and cars.

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