

Portable Laser Scanning System



3D Laser Mapping (UK) has developed a portable laser scanning system for mapping overhead infrastructure such as power lines. With adverse weather and over-grown vegetation increasingly causing damage to overhead cables, the system can be carried as a backpack to instantly map the position of cables and the proximity of nearby vegetation.

3D Laser Mapping developed the portable system following major power outages in Europe. Using mobile laser technology, the system links to specially developed software that automatically identifies areas of risk so that utilities can prioritise their maintenance activities. The system is highly portable; mounted on an off road vehicle, tripod or even a back pack allowing surveys can be undertaken in the most remote and inaccessible areas.

“Major power outages are becoming a common occurrence both in Europe and North America. One issue is the increased vegetation growth rates we are experiencing, perhaps induced by global warming, which are a contributing factor to many losses of power,” said Dr Graham Hunter, managing director of 3D Laser Mapping. “By monitoring the proximity of vegetation to overhead cables proactive maintenance can be taken therefore minimising liability and improving asset management.”

The mobile mapping system comprises of a high performance long range 3D laser scanner, associated operating and processing software and an integrated and calibrated high resolution digital camera. The Riegl LMS 420i laser scanner collects 2 million point measurements in just four minutes; operating at a range of 1,000m and with an unrivalled field of view the LMS 420i is both fast and accurate.

“Power companies have traditionally used airborne laser technology (Lidar) to survey high voltage power networks however low voltage cables are too small and too close to the ground to be visible,” continued Hunter. “Their size and proximity to both ground and vegetation make them vulnerable to damage therefore increasing the risk of network failure. By maintaining accurate and up to date records of the infrastructure and nearby vegetation proactive maintenance can be scheduled and the risk and liability reduced.”

Source: 3D [Laser Mapping](#)