

New Efficient Solutions for Distribution Powerline Extraction and Utility Pole Survey

Michael Cook (USA)

Key words: Engineering survey; Implementation of plans; Laser scanning; Low cost technology; Remote sensing; Risk management; Power Corridor mapping; Wires; Utility poles; Mobile Laser scanning

SUMMARY

Cataloguing Electric and Power Corridors for Transmission, Distribution and Substations with LiDAR scanning has become more efficient in the past few years. However, the Electrical Grid is one of the largest machines on earth and there's a lot of information that is often missed or not collected at all. In this presentation we aim to improve the quality of the collection of such information with a combination of Mobile LiDAR data and the right extraction tools and methods. This presentation will explore how to collect and label the following features:

- Towers and Poles
- Wires and Attachments
- Clearances
- Real-estate, on or between the Power & Communication Space
- Encroachments and more

We will specifically will focus on tackling complex Distribution lines that require more detailed information. With the methods discussed in this presentation the attendee will learn how to:

- Extract what's needed, much faster than the traditional methods.
- Vectorize poles, wires and attachment points, with a few simple steps; leaving you with a light-weight 'geolocated'

New Efficient Solutions for Distribution Powerline Extraction and Utility Pole Survey (12236)
Michael Cook (USA)

FIG Working Week 2023
Protecting Our World, Conquering New Frontiers
Orlando, Florida, USA, 28 May–1 June 2023

deliverable.

- Reduce data-collection (per pole) down to a few seconds.
- Extract 300+ utility poles per day instead of just 30.
- Reduce file sizes and become more compatible with other platforms
- Export seamlessly to ArcGIS or to other database platforms.

This well-defined process will improve the quality of the information extracted without sacrificing schedules. The implementation of Mobile LIDAR into this type of utility survey will add value to current collection processes and/or improve established workflows.

New Efficient Solutions for Distribution Powerline Extraction and Utility Pole Survey (12236)
Michael Cook (USA)

FIG Working Week 2023
Protecting Our World, Conquering New Frontiers
Orlando, Florida, USA, 28 May–1 June 2023