Executive Summary

Business idea

Electrical distribution networks are geographically extremely spread out. Furthermore, new usages (electric cars), new decentralized production methods (regenerative energies) and new technologies (smart grid) have recently appeared and increase the complexity of the grid making its management and maintenance a challenging task.

030Solutions helps utilities by delivering highly detailed information on the grid and its state. This information can then be used in order to make informed decisions about the grid and use the utility resources effectively for its asset management programs. A 3D model of the grid and its environment is collected using laser scanning or "mobile mapping". This model is fed into our AI based algorithms in order to extract utility relevant information automatically. The results can be exported to be read on a geographic information system (GIS) software and/or stored in the cloud and visualized directly within a web browser.

In 2018, the camp fire caused at least 85 civilian fatalities, was caused by a faulty power line. The fire causes more than $16 billions of damages, and PG&E, the utility company responsible had to file for bankruptcy. Our software can help detect tree encroachments on the distribution grid and document tree growth. This information can be used in order to update trimming routes based of empirical information and help dispatching vegetation management teams onto the field.

Customers

Potential customers for this service are the companies operating the electrical distribution grid ("utilities"). With 030Solutions, they are able to audit their widely spread networks (often thousand of miles), in a rapid, inexpensive and scalable way. The data generated by 030Solutions can then be read in a geographic information system (GIS), allowing them to use their resources for inspections and maintenance effectively.

World wide there are around 600 utilities which maintain a large distribution grid with a total revenue above 1 billion €. Together, they spend 13,5 billion € per year (around 6% of their total revenue) for the maintenance and expansion of the distribution grid[1].

In the USA, utilities (400 companies with 220 billion € total revenue[2]) have often to deal with a fragile and old infrastructure, which should soon be upgraded with "smart" technologies ("smart grid"). But this process necessitates a good overview of the grid and its state. Utilities are therefore dependent on manual audits and inventories.

As the disruptive technology proposed by 030Solutions allows to reduce the prices and time needed to audit the grid drastically as well as augments the level of awareness of the infrastructure, it should be welcomed by the electrical utilities.

Although we are mainly focused on utilities and the distribution grid, our AI based algorithms can be used for extracting a greater variety of features. Traffic lights, traffic signs, trees can already be extracted automatically and exported to a GIS format. This opens up a plethora of potential asset management use cases.

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1   Stifle Nicolaus: Electric Transmission and Distribution infrastructure 2006
2   Harris Williams & Co. – Transmission & Distribution Infrastructure 2010

Market and Market penetration

030Solutions is interested in the market of audits of electrical distribution grids. The potential for this market is for the US alone at least 250 millions € for 2013. It has been growing every year by a lasting 10%. Within the next five years, 030Solutions wants to become market leader in this niche market.

030Solutions should start entering this market in the US as there is a higher need for our technology (overhead network, large geographic zones, frequent storms and wildfires...) and 030Solutions has been building a network of potential partners (EPRI) and potential customers (North East Utility, PG&E, SMUD...).

Competition and USP

The market of distribution grid audits is a niche market. The competition such as GeoDigital, Davey Group or IkeGPS are relying extensively on a full or partly manual data acquisition. 030Solutions has a considerable advantage over its competitors as all steps of the audit are fully automated. Both driving a mobile scanner along the grid and extracting relevant information with our algorithms are easily scalable to a large infrastructure. As stated by "Peter Dominguez", the head of vegetation management by PG&E, 030Solutions belongs to the "early movers".

Company, Team and Network

030Solutions is based in Berlin Germany and has been founded by Julien Penneçot and Nikolaas Steenbergen. The founders have conjointly more than 20 years of experience in software development, especially in laser scanning data processing, AI and deep learning, and have a large network of contacts in the laser scanning community.