TELEDYNE

Teledyne Geospatial
Utility Solutions

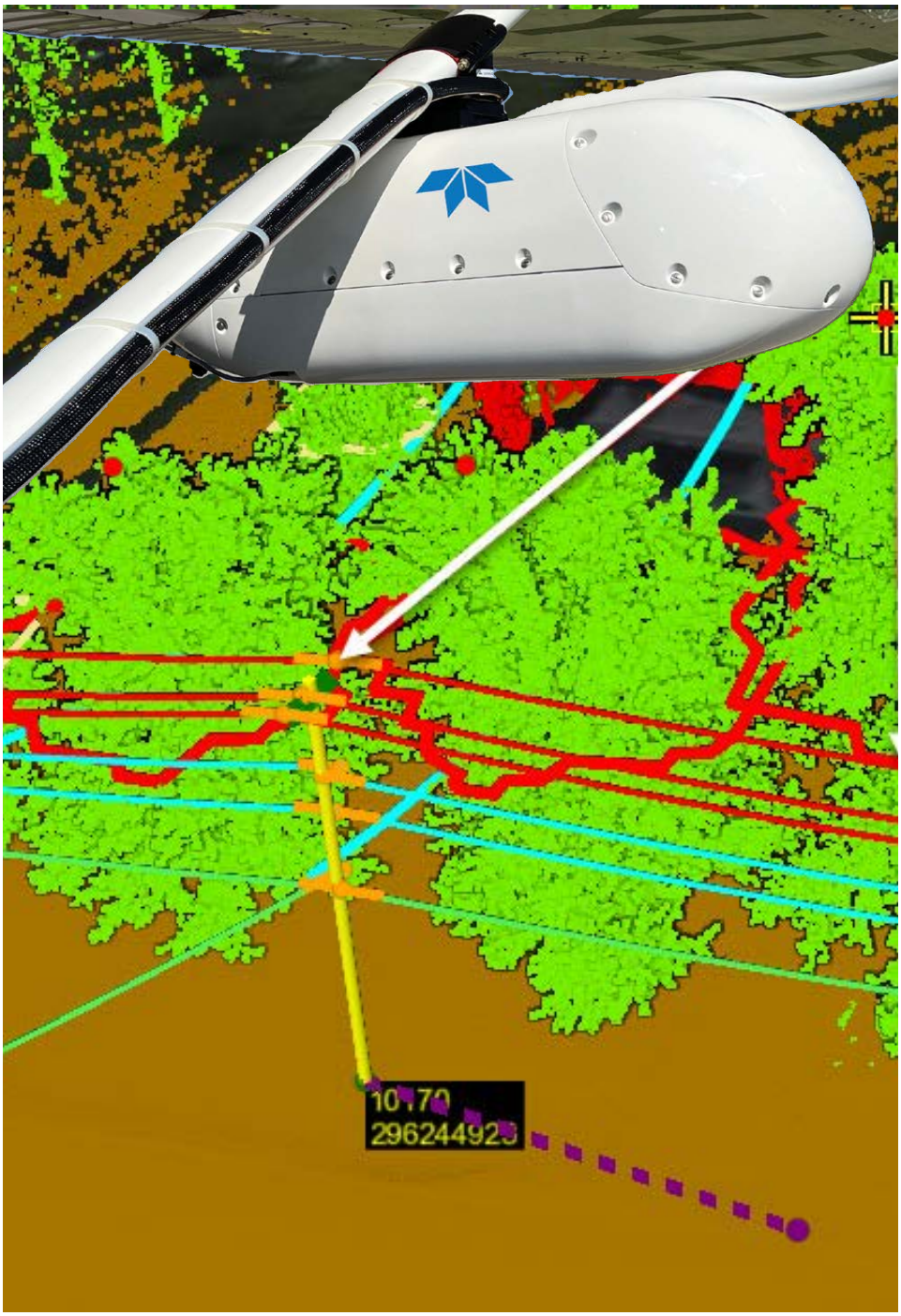
Network Surveyor

Delivering actionable reports in **hours, not weeks**

Introducing Network Surveyor

Designed specifically to meet the time constraints for electric utilities, Network Surveyor combines unmatched lidar technology with edge processing to deliver actionable data in near real time. Network Surveyor removes the need to manually process lidar and camera images by automating the processing on-sensor and in the cloud. Land with data ready for ingestion into the digital twin and identify critical infrastructure risks within hours. Network Surveyor lowers operating costs, reduces risk, and increases public safety of critical infrastructure assets.

Network survey is a holistic solution that combines the right Lidar and camera sensors, efficient airborne data collection, and onboard data processing to seamlessly feed Pointerra3D's cloud-based rapid data processing engine to deliver insights on threats to your network infrastructure in hours, not weeks. Pointerra3D is an infinitely scalable digital twin platform that transforms the way utility asset owners use geospatial data to rapidly assess vulnerabilities across their grid.

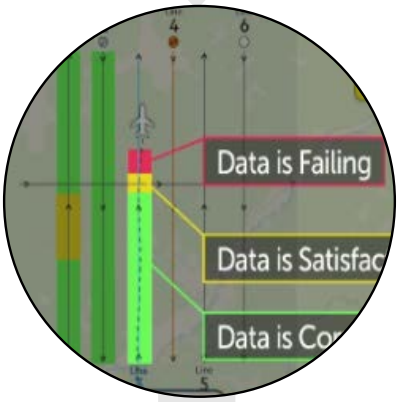


Pointerra3D
Simply *faster.*



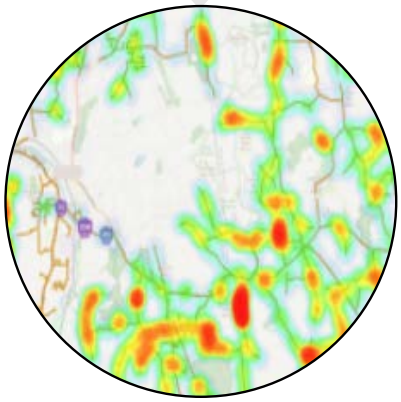
Sensor

With Network Surveyor there are multiple options for collecting 3D lidar data depending upon the size of your service area. These options range for UAV Lidar sensors for small territories or organizations with mature UAV operations, small Helicopter solutions for mid-sized territories, and large Helicopter or Fixed-Wing solutions for large territories. The solutions can be customized with multiple high resolution cameras to simultaneously capture inspection imagery.



Acquisition

Network Surveyor's lidar and camera sensors deliver efficient data acquisition with full density accurate georeferenced point clouds and camera imagery generated in realtime onboard the aircraft. With Onboard operator interface data is quality controlled in realtime to ensure acquisition meets requirements allowing in-flight reflight in necessary.



Insight

Immediately after acquisition inflight generated lidar point clouds are uploaded to Pointerra3D for automatic creation of the network digital twin to generate risk metrics across multiple use cases in a fraction of the time of alternative software solutions. Pointerra3D's digital twin coupled with auto-classification of the lidar data and utility GIS data is the basis to produce customizable vegetation encroachment reports, identification of strike trees, asset inspection, GIS pole conflation vectors, conductor clearance analysis, pole loading inputs and more. Generate insight is consumable by end users as heat maps and filterable views at infinite scale.



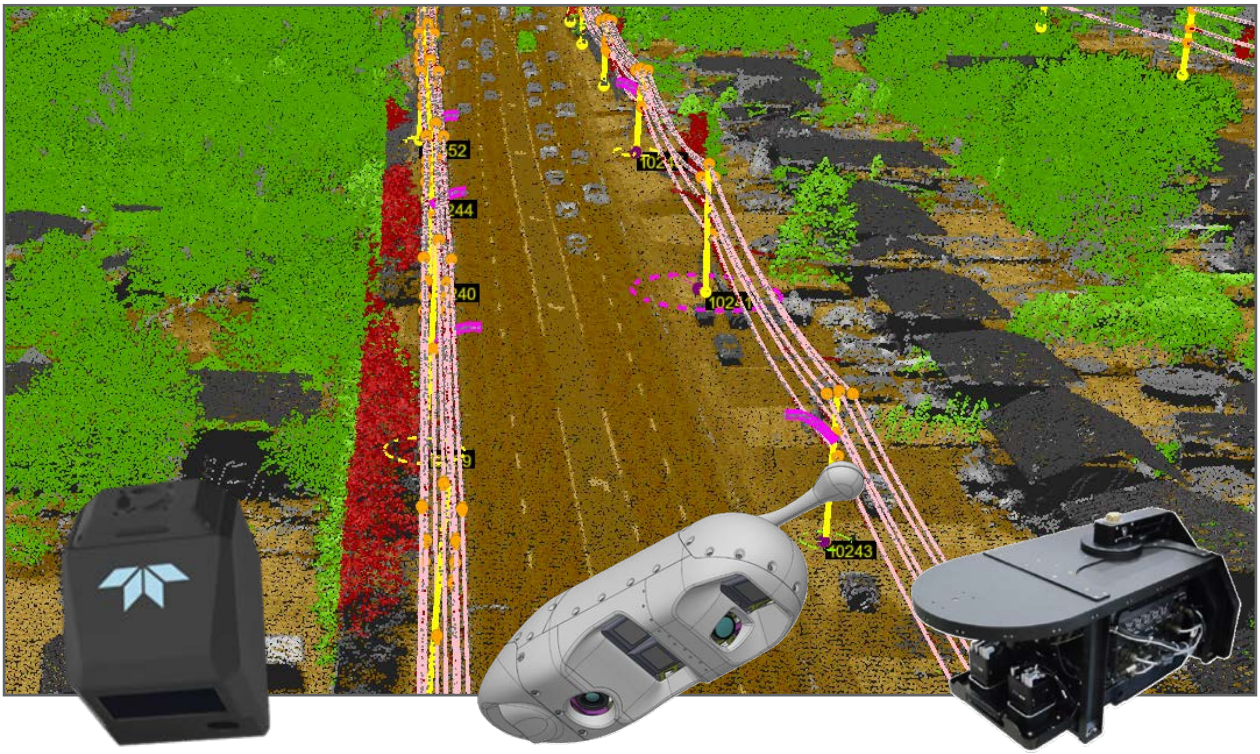
UAV
for asset level collection and corridors



Small Helicopter & Fixed Wing
for circuit level transmission and distribution networks



Large Helicopter & Fixed Wing
for state wide transmission and distribution networks



Upto 500ft / 150m agl
Upto 300m swath
Upto 10m/s

90 x 20deg FOV Lidar

Optional 61MP Camera

Teledyne FLIR R70
Freefly Astro MAX
Inspired Flight IF800

Upto 700m agl
Upto 375m swath
Upto 90 knots

Upto 3 Lidar
(nadir, forward, backward)
Upto 90 x 40deg FOV

Upto 3 Cameras
(nadir, forward, backward)
61MP to 120MP resolution

Trimble RTX Corrections

Inflight Quality Control

Cessna 172, 182, 206, 208
Diamond DA42
Robinson R44, R66
Bell 206
Airbus AS350
MD500

Upto 1000m agl
Upto 535m swath
Upto 130 knots

Upto 60deg FOV Lidar

Upto 4 Cameras
(nadir, forward, backward)
120MP resolution
RGB and IR

Trimble RTX Corrections

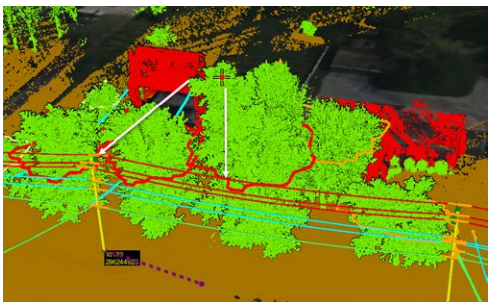
Inflight Quality Control

Bell 206
Airbus AS350
Fixed Wing with 20" port



Vegetation Encroachments

Pointerra3D combines generation of the network digital twin and automatic classification of vegetation features across large networks rapidly to feed vegetation encroachment reporting. The Pointerra3D team customize the detection, report generation and publishing to each utility's unique requirements ensuring a seamless integration to existing workflows and tree trimming cycles. Our real-time filterable heat maps published in Pointerra3D, ArcGIS Online or your own web mapping application offer vegetation mgmt. teams tools to quantify risk at a span, feeder or entire network level.



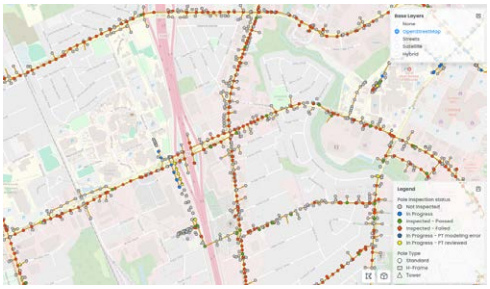
Strike Trees

Pointerra3D identifies at scale the potential risk of every tree within the network right of way. For every tree valuable tree metrics including tree height, tree canopy diameter and area, DBH and most importantly overstrike distance to network wires enable utilities to quantify outage risk prior to expected high-wind weather events. Tree detection and metrics can be visualized and analyzed in combination with the network model and lidar data or generated as reports.



Pole Conflation Vectors

Upon generation of the network digital twin utilities can immediately integrate GIS records of pole assets that automatically calculates conflation vectors. Conflation vectors provide a 3 dimensional delta between the recorded GIS location and the real world location identified by Pointerra3D in the lidar data. This workflow removes months of conventional manual approaches to correlating GIS records and real-world pole positions to substantially shrink feeding the network conflation process.



Pole Loading – Make Ready Analysis

Pole Loading workflows for asset hardening and joint use analysis are historically an hours long field collection exercise, followed by a slow manual entry and analysis workflow in desktop software. Pointerra3D's "Quick Loading" workflow generates the majority of geometric pole metrics that when coupled with equipment material data shrinks the workflow from days to minutes. Pointerra3D can integrate with all the major pole loading software solutions to support the entire pole loading lifecycle providing a single source of truth project mgmt. platform that very engineer can consistently operate within.

Teledyne reserves the right to make changes at any time without notice.
Copyright © Teledyne. All rights reserved. 2025 03 14