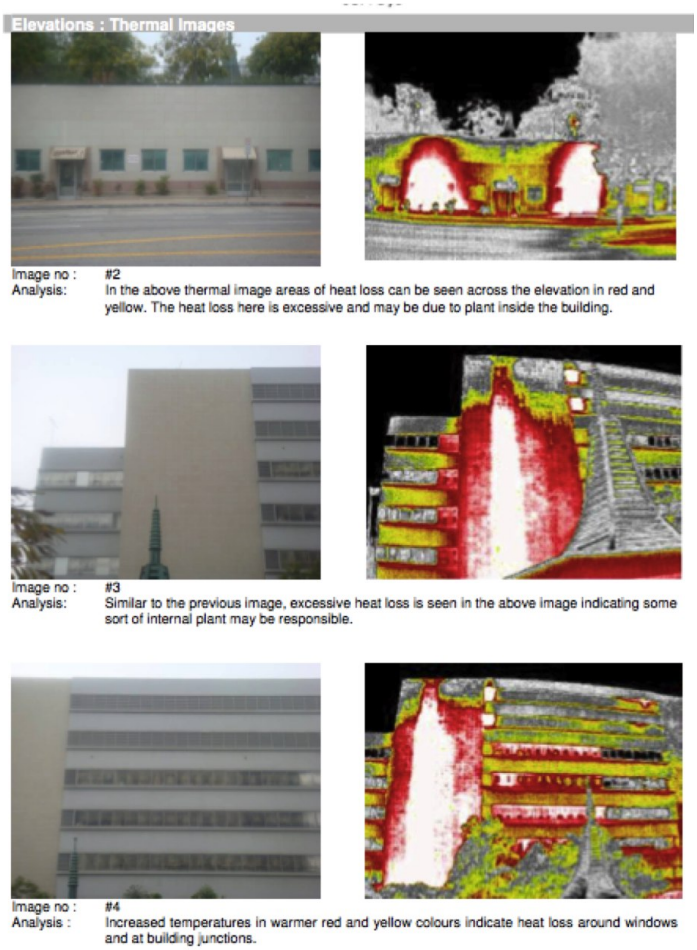
Heating up the market for 3D data

Ed Oliveras | SPAR Point Group | 1/21/2013



Original energy-audit illustration from the January 21, 2013 article.

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In Eddie’s words

> “This latter topic has intrigued me for years”

> “The best thing about a scan for this kind of application is that the data can be preserved and used again and again for facility management, security, safety - you name it.”

What the dated article records

Eddie connects thermal imagery, point clouds and energy audits, credits Jonathan Coco and other contributors, and considers practical services for building owners. This documents his early public explanation of reusable 3D data without claiming he originated every technique.

Historical context

The following is the complete recovered article text, with original image credits and clickable source links. Product, legal and technical statements describe the time of publication. They are not current professional advice. Broken external services and retired software are not silently replaced.

These excerpts do not establish sole invention, current affiliations or every detail of a later recollection. The full original follows so readers can judge the context.

Complete recovered article

Recently, here on the SPAR blogroll we saw articles about Google's interest in lidar and a couple of articles on thermal imagery overlaid onto scan data. This latter topic has intrigued me for years and it was reignited not long ago when my friend Jonathan Coco with Engensus posted those Youtube videos of his thermal scan fly-thru animations (which was followed by a spur of interest and submissions by the community).

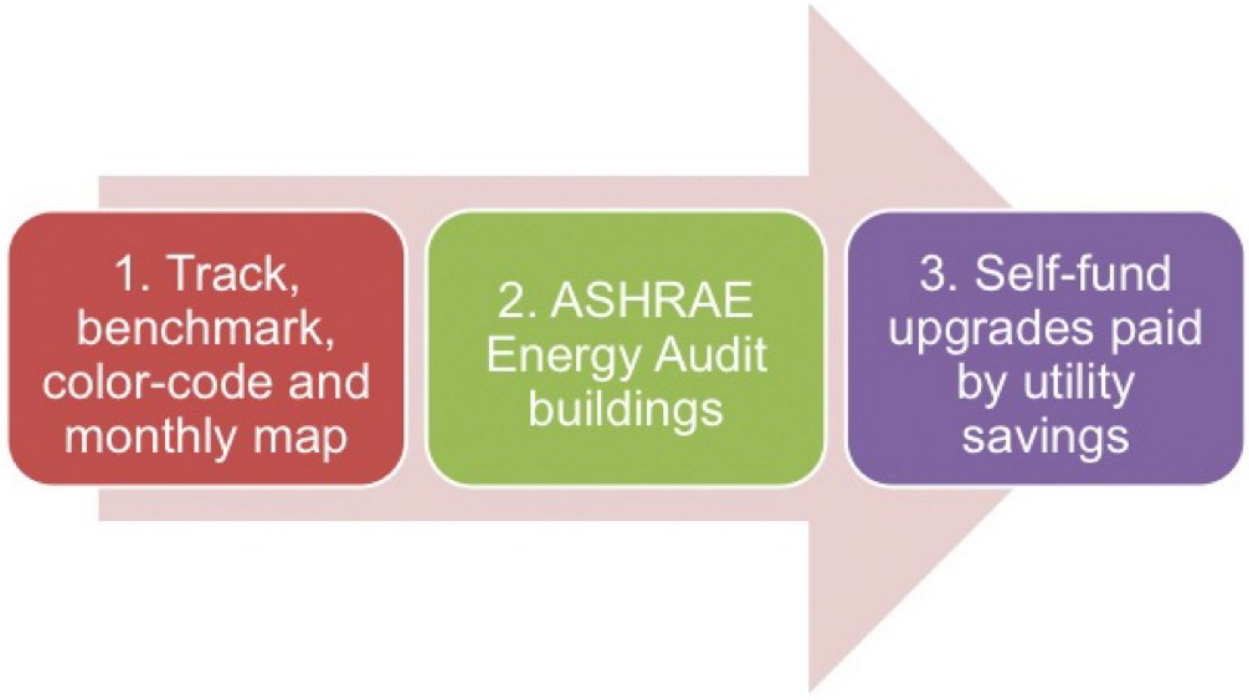
This ought to refresh your memory:

The real question, though, is this: How can this type of information combination be useful? Can it be a billable service or a way for an owner to save money?

Energy conservation, being green, watching your carbon footprint, all that hippy tree-hugger stuff… Is there a sustainable (pun intended) service offering for laser scanning service providers to offer to facilities managers for every commercial or government building across the country? Heck, across the globe? Who doesn't want to make money helping their customers save money and the environment at the same time?

So why would a facilities manager or sustainability director look at this technology? Utility costs can be the second largest expense for a company or institution after labor costs. By modifying their attitude towards energy consumption, or making minor changes to the offending equipment – like light bulbs, insulation, tinting windows, etc… – they can shave off points from their utility bills. (I installed a new a/c about a year ago and cut my utility bill by 30 percent, which of course helps cover the cost of the machine over time and then saves me money in the long run. Maybe I should be a facilities manager…)

Well, this general concept is how service providers like Mark Johnson are able to get a university, or state or federal agency or public school system that has zero money for this in the budget to commit to hiring him. He charges nothing up front and recovers his cost from the utility savings outlined here:



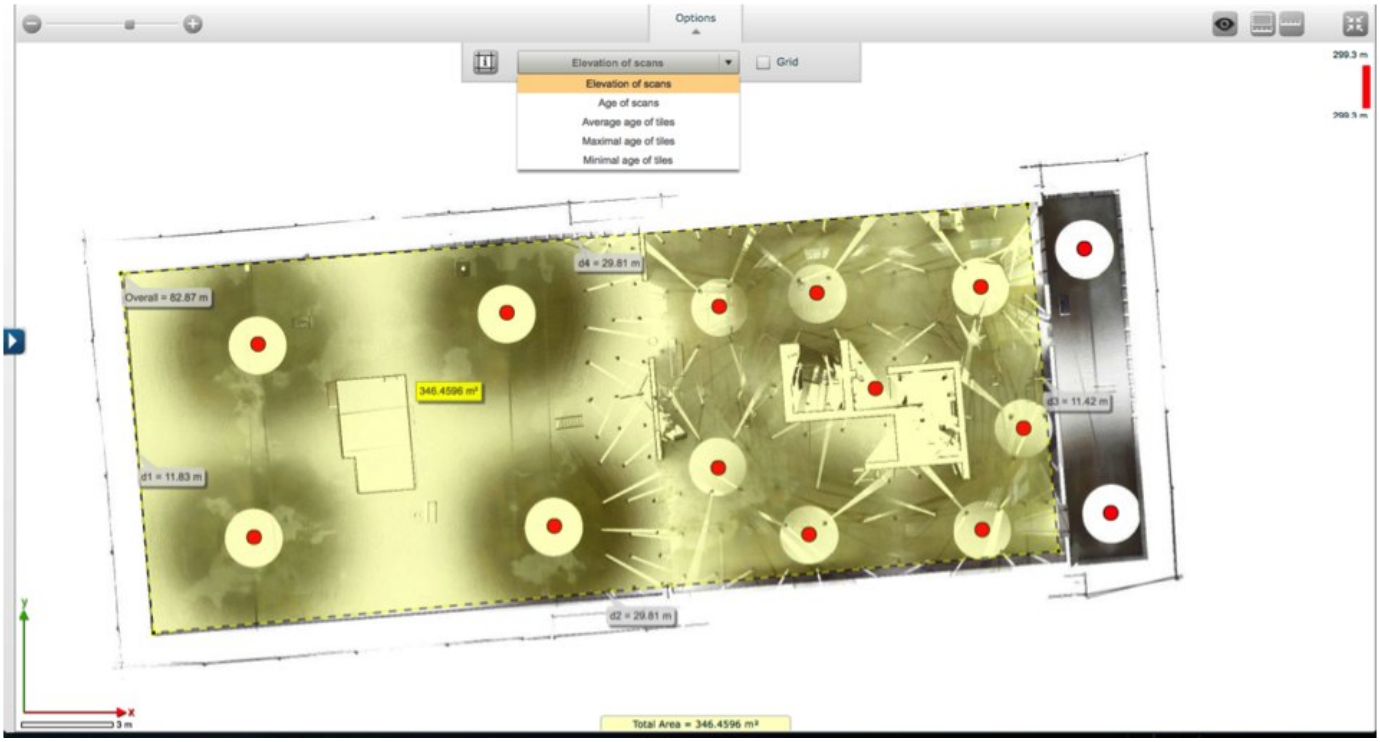
Original image capture

(image courtesy of helpanswers.org)

Here's how 3D scan data can be used for energy audits as well as value-added by-products of the scan:

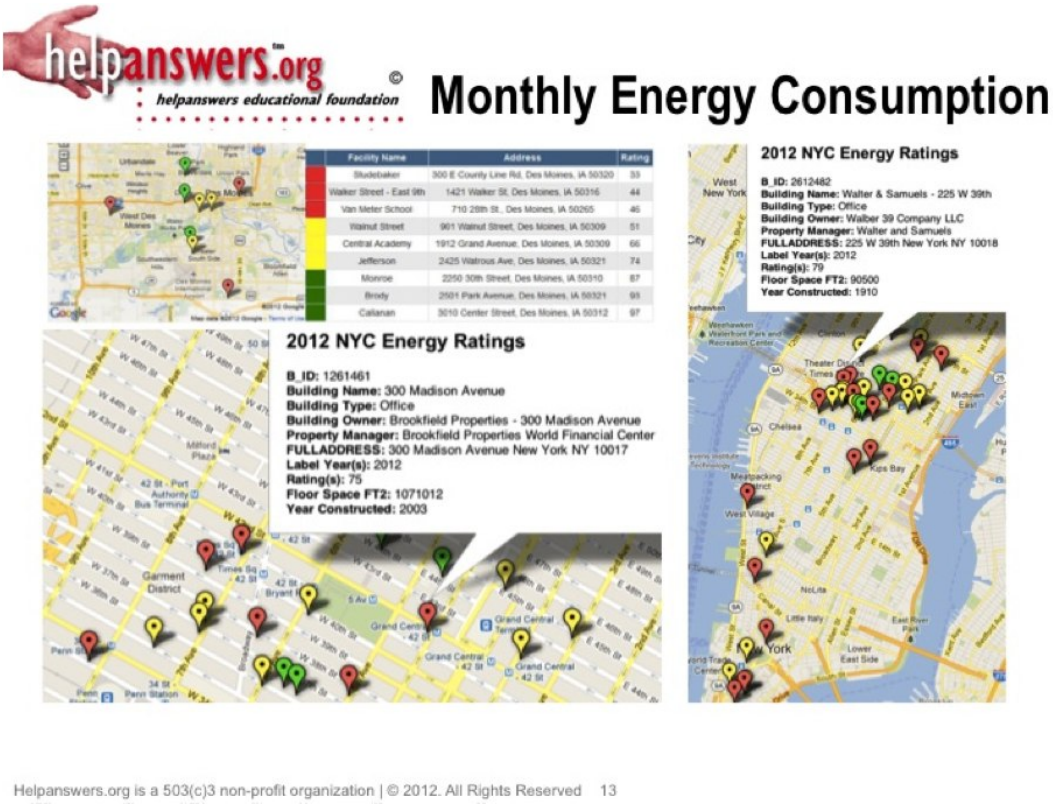
3D Documentation for Accurate Square Footage: I'll keep emphasizing web-based scan data viewers in just about every post here, and here's just one of many benefits: To get an accurate Energy Score, all the methods used rely on up-to-date building information. Many low-efficiency buildings were built decades ago and require some verification to ensure the volume and square footage data you feed into the calculations are accurate. Well, take a scan.

You can even measure square footage right from the viewer:



Original image capture

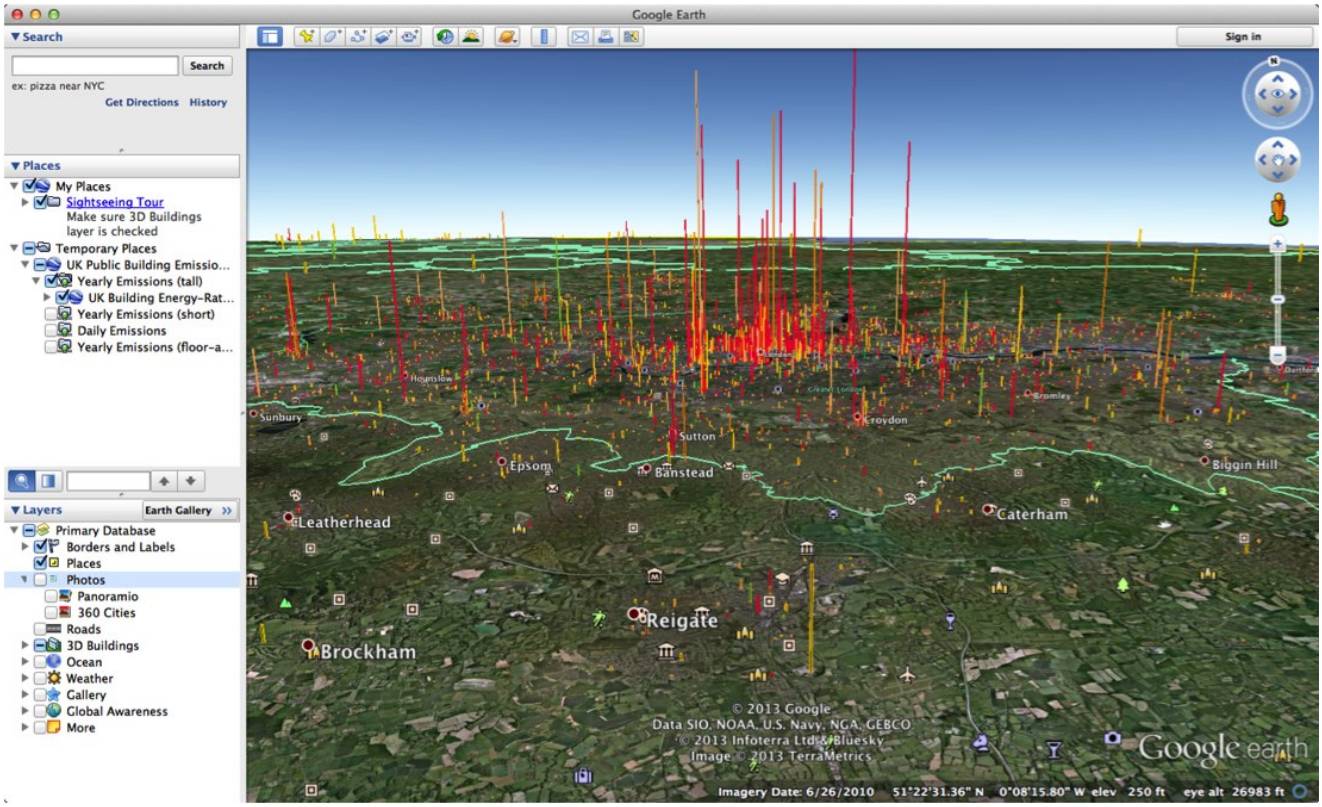
(Image courtesy of FARO Scene Webshare)



Original image capture

(Map of energy scores in Google, image courtesy of helpanswers.org)

This scan viewer can be integrated with the power of Google Earth to hyperlink your online scan database to a portfolio like this one… you could set it up to literally click on a building and click on a link to view the scans. FARO Scene Webshare has the ability to back link to Google Earth also.

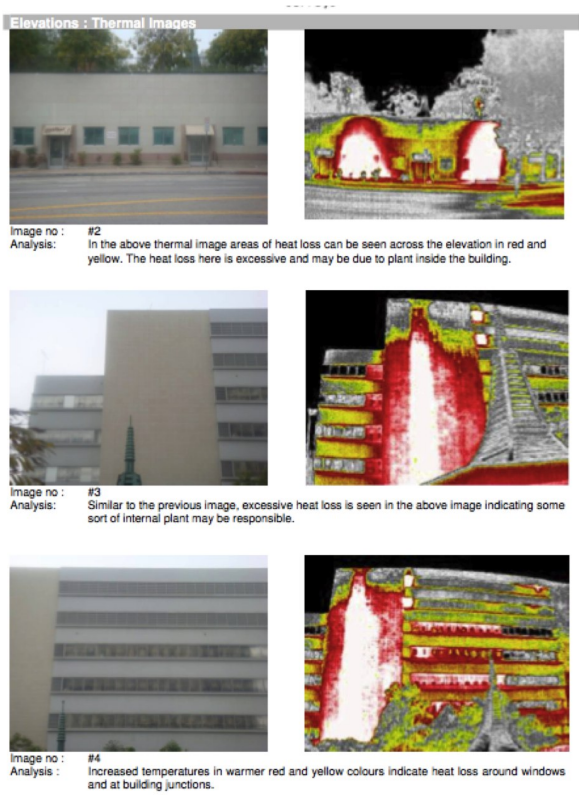


Original image capture

(Map of Actual CO2 Emissions from 40,000 Buildings; image courtesy of Google Earth Outreach)

Facility Energy Audit: If a building has a consistently low energy score, an energy audit can give direction toward a tune-up. Thermal imagery can be captured and overlaid onto the scan data, both inside and outside the building and roof. This information is a visual representation of where money is being wasted and is like evidence in a crime scene where you've got to see it to believe it. The scan data can provide info like square footage of new roofing material for insulation or window areas for tinting film to help determine the cost of the upgrades.

The end result might be something like this:



Original image capture

The best thing about a scan for this kind of application is that the data can be preserved and used again and again for facility management, security, safety - you name it. But maybe that's fodder for another post...

Videos linked in the original article

Watch original video: h_Bi2P29u4o

Source and preservation record

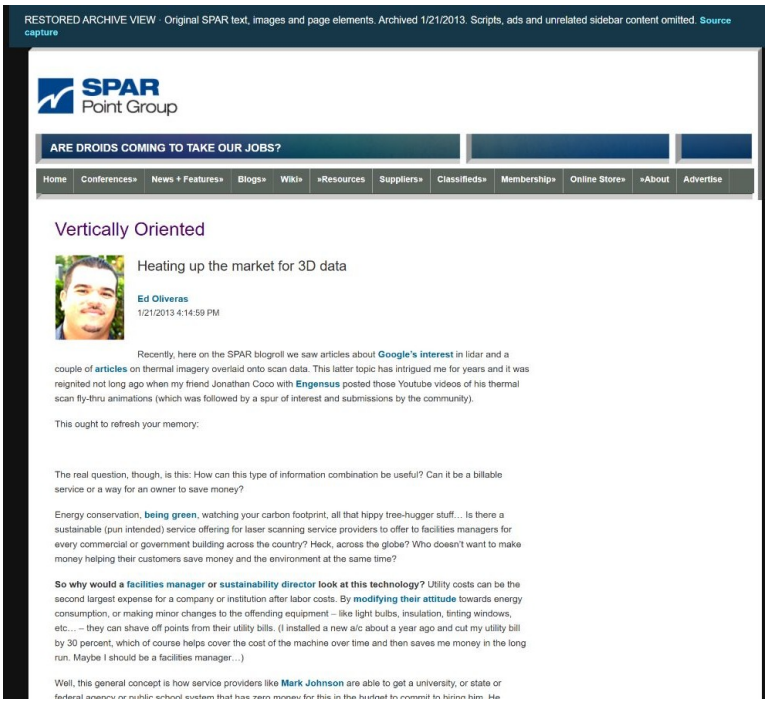
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