Accident Reconstruction – Full speed ahead

Ed Oliveras | SPAR Point Group | 1/7/2013



Original scanned vehicle image. Atlantic Laser Scanning Services; FARO Scene 5.0. Published January 7, 2013.

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In Eddie’s words

> “Of course, laser scanners are data collection tools.”

> “If you’ve already got scanning expertise and are looking to break into a new market, you can set yourself up to provide just laser-scanning services and team with Recons in your area, or if you’re serious about providing accident reconstruction services, then consider specialized training before diving in.”

What the dated article records

Eddie describes people coming to him for scanning and business advice, explains why the operator needs expertise, and illustrates vehicle preservation with his own damaged car, Cortes Towing and Atlantic Laser Scanning. The original also credits Dustin Productions. It records his role and advice in January 2013; it does not establish sole invention or resolve later business disputes.

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

Lately I've been getting many people brand new to scanning, including land surveyors interested in expanding into new markets, visiting me for consultation on how to start a business in Accident Reconstruction – often with no prior experience, training or even scanning knowledge! Apparently, almost anyone can offer accident reconstruction services (depending on the state); it's not a professionally regulated industry here in Florida, much to my surprise. Obviously, though, those that have better "credentials" get more business, along with those who have what I call "feathers in their caps" like retired police officers or those with an engineering degree, even a Ph.D. in a specific discipline.

So how on Earth do these people think a noob break into such a competitive field? Because 3D laser scanning has seen impressive sales growth in that industry within the last couple of years, largely in part to the affordability of new scanners. "Recons," as they sometimes call themselves, are always trying to keep an edge over their competition, and now just having a scanner in the room at a meeting can impress their attorney clients (yea, the guys on daytime TV commercials between your soaps). In fact, it's getting to be the expectation that this technology is required, sometimes replacing more traditional tools like total stations or (gulp) the measuring wheel.

So, people are trying to break into the field using a laser scanner as their cap feather.

Of course, laser scanners are data collection tools. And it's not the tool but the operator who is expected to have the know-how and expertise to apply the technology to the application and produce something worthy of helping their client at trial. If you've already got scanning expertise and are looking to break into a new market, you can set yourself up to provide just laser-scanning services and team with Recons in your area, or if you're serious about providing accident reconstruction services, then consider specialized training before diving in.

Here are just few ways Recons are using scanning, specifically for vehicular accidents:

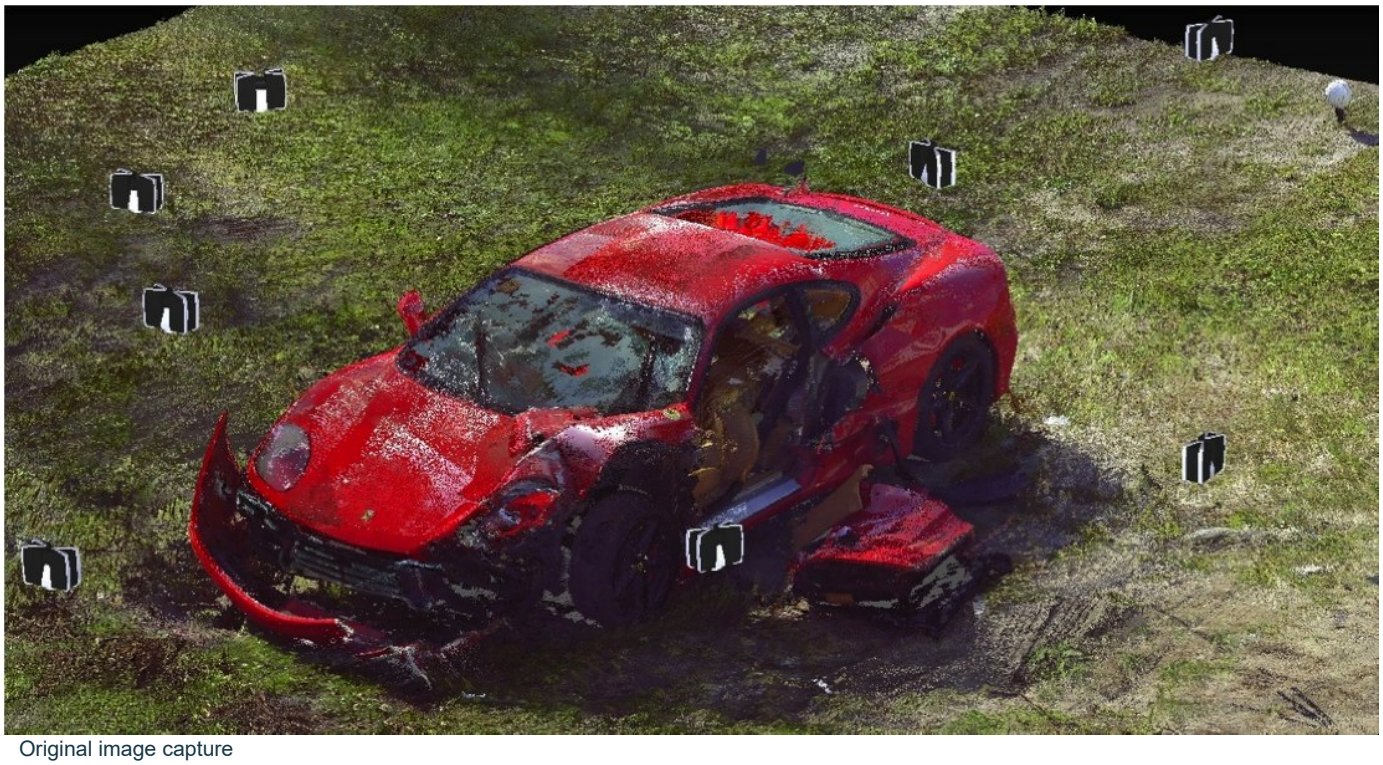
Vehicle and Scene documentation and preservation: The vehicle may be sitting in an insurance lot or police impound or tow yard and the weather and elements are doing their thing. The vehicle may be moved and altered, or the accident scene could change (repaving, or clearing trees or damaged power poles) in the time the case is being decided. Just in the same way scanners are preserving evidence in CSI applications, scanning can prove helpful in preserving accident scenes and totaled cars, as well (I've put together a full white paper on this, if you're interested). You can pull dimensions and cut sections right in your basic point-cloud processing software, or use any number of third-party software applications specifically made for this task.

A conversion like the following can be very helpful in the accident scene reconstruction business:



Original image capture

(Real photo image of my old car, image courtesy of Cortes Towing Service, Longwood, FL)



Original image capture

(Scan 3D view image in FARO Scene 5.0 image courtesy of Atlantic Laser Scanning Services)

The end product can even be as simple as a viewer to be shown in court, similar to Google Street View making it simple to visualize the environment. Many scanning manufactures offer this utility or you can use a panoramic viewer if you export the scan images, like this one.



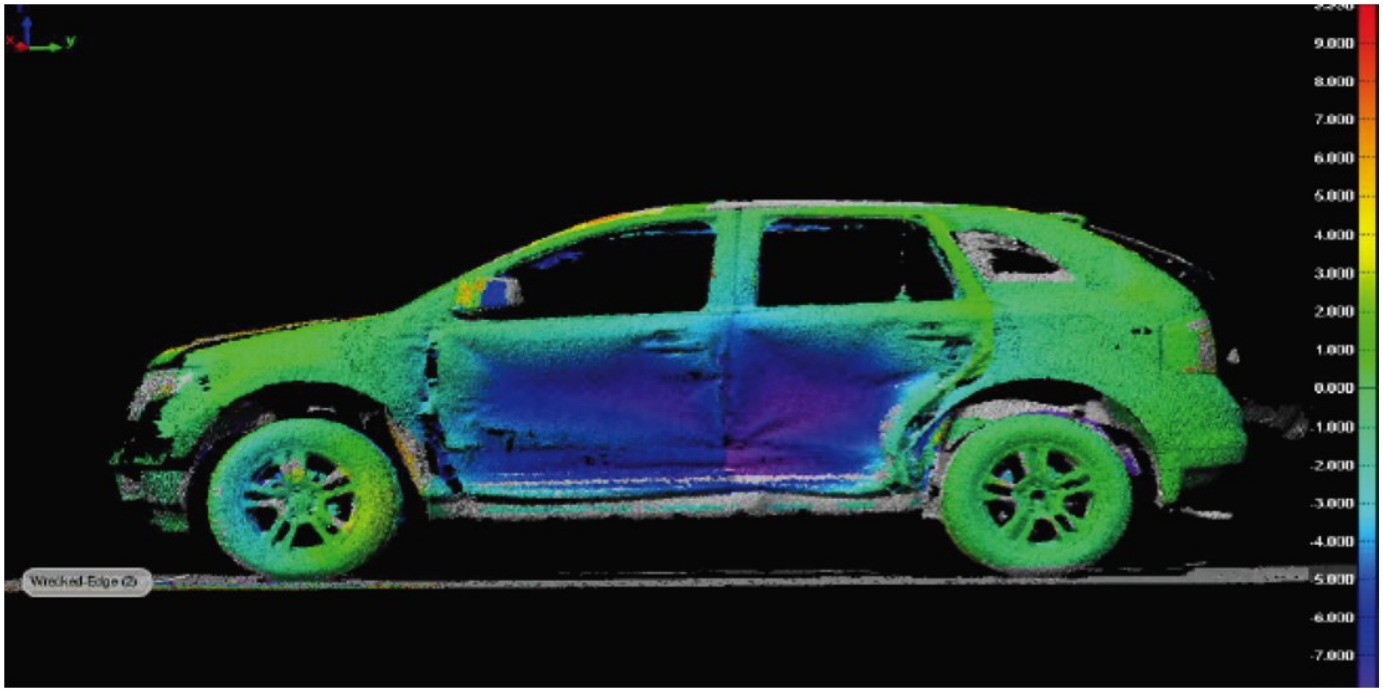
Original image capture

(FARO Scene Webshare, free online viewer www.farowebshare.com image courtesy of Dustin Productions, LLC)

Diagramming and visual exhibits for trial: These end products can vary greatly to be as simple as a two-dimensional CAD drawing representing the scene in Plan view (overhead) or go crazy with a full-blown 3D animated reconstruction like those done by David Dustin:

http://wordp.dustinproductions.com/animation-examples/

Scientific Analysis and Inspection: Some of the more fancy deliverables some companies are offering include inspection of the damaged vehicles as compared to an exemplar vehicle. This can be done by simply scanning the wrecked car and the same model of an undamaged car to represent the “normal” (slip a 20-spot to your local CarMax rep). Overlay the two scans using a CAD-to-part algorithm common in applications like Geomagic. The end result is every ripple or crunch highlighted in a cool color graph or whisker plot to show quantitatively how much damage the vehicle endured. This information is then used in conjunction with crash test data to make a statement about how much force was required to result in that type of damage. Even if you slept through physics class in college (not your beloved author of course) you’d know force equals mass x acceleration … compare that with testimony and now you have some science your attorney is just foaming at the mouth for.



Original image capture

(Example of a CAD-to-part inspection of a wrecked vehicle)

Source and preservation record

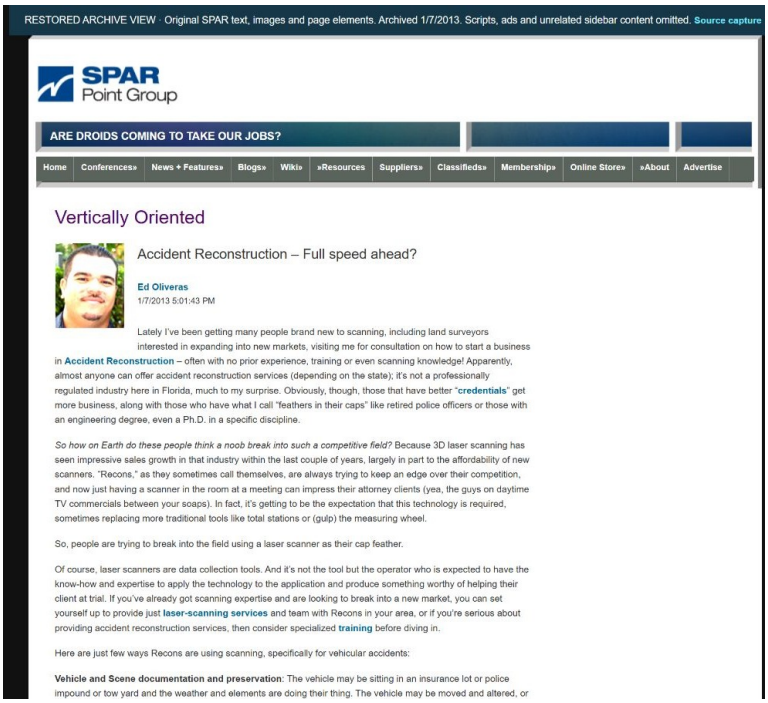
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