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Gavel to Gavel: Accident reconstruction technology – a primer

By: Jeff Curran Guest Columnist June 8, 2022 0



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To quote Ferris Bueller, life moves pretty fast – if you don't stop and look around once in a while, you could miss it. Nowhere is this more true than in the latest accident reconstruction technology.

3D laser scanning allows an expert to integrate the 3D geometry of basically anything into computer software for further evaluation. The scanning of vehicles, roads, fences, trees, etc., can be critical in figuring out and demonstrating what happened, but also showing what could have happened if things were done differently. Scan data can also be used with other techniques to reconstruct the positions or geometry of objects that have changed or are no longer available for physical measurement.

Photogrammetry utilizes photographs and/or video frames to obtain reliable information about physical objects (size, location, etc.). It's often utilized to locate and re-create tire marks on a roadway or quantify vehicle crush when physical measurement is not possible.

3D printing can be done on an object that has been laser-scanned, creating an accurate scaled model of the damaged vehicle that can become a powerful trial exhibit. A judge or jury can hold the model and see things you want to emphasize. You can 3D print almost anything on whatever scale – or even make a whole interactive physical scene.

Drones are generally available to anyone; however, use and operation is heavily regulated by the FAA, even if using them recreationally. You can use them to show hard to get to scenes, aerial views, etc.

Collision avoidance systems are designed to help a vehicle avoid a collision. Advanced driver-assistance systems are designed to prevent/reduce the happening or severity of a collision. These systems usually monitor a vehicle's speed, the speed of the vehicle in front of it, and the distance between the vehicles, so that a warning can be provided to the driver if the vehicles get too close or if the distance between the vehicles reduces too quickly.

Electronic data recorders are evolving in terms of what info they can store. Unless your car is really old, there's a lot of useful info for the reconstructionist to use.

Infotainment systems can also have some useful info, including speed and location history.

Simulations are what you can do if/when you've done a lot of the above. Once you get all the background information, you may be in a position to use simulation software to perform underlying calculations and evaluate vehicle movement, timing, and crash severity.

Told you this stuff moves fast!

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