

Harald Haas, a University of Edinburgh professor, coined the term Li-Fi at his 2011 TED Global Talk



## Speed of light

Move over Wi-Fi, Li-Fi transmits data 10 times faster than what top internet packages offer

BY DAVID BOOTH

**Y**ou learn the darnedest things in the darnedest places. For example, I recently gleaned the future of intra-computer communications in the desert outside Las Vegas while bounding around in a Chevy Silverado Baja buggy. Ostensibly, I was supposed to be appreciating some new headlights from SLD Laser, the moonless, deserted desert seemingly the perfect place to show off how deeply a light can penetrate the dark of night. What better way to prove how far a laser headlight can project than to scare yourself silly in a Baja pre-racer that can seemingly leap off tall

buildings, er, mountains?

SLD's laser lights are, indeed, incredible. Fun had, four-paragraph news item written, done and dusted. Not quite. Paul Rudy, SLD Laser's co-founder and chief marketing officer, whispers in my ear, "We can send messages through the light." Huh? He repeats himself, albeit with more clarity. "We can transmit information via the light beams that can be used for vehicle-to-vehicle communication." For a split second, I think this is how the pocket protector set pulls the leg of the uninitiated. But, no, Stefan Videv, a

vice-president at the University of Edinburgh's Li-Fi R&D Centre, chimes in, "And we can beam 10 gigabits a second of data with near-perfect transmissibility."

As it turns out, Li-Fi — as in Wi-Fi, but transmitted by light — is a thing and there's a whole bunch of reasons to start paying attention. For one, those 10 gigs a second are about 10 times faster than the "Ultimate" Bell internet package that costs almost \$200 a month. For another, it's faster than the 5G networks automakers are currently all agog about and claim will be necessary for our semi-autonomous future. According to SLD, the future of vehicle-to-vehicle (V2V) and even vehicle-to-infrastructure (V2X) is not enhanced cellphone networks but more powerful lights.

Of course, you're already wondering how this is going to work during the daytime. Rudy says Li-Fi only needs the most minuscule beam and its lasers will be plenty

powerful enough to communicate in bright sunlight. Okay, but it's still decades away, right? Nope, Videv says, it should be good to go in about five years.

Here's the thing: Li-Fi has so many uses beyond intra-car communication. Rudy notes that SLD is looking into equipping geo-mapping drones so they can transmit their cartographic information via light rather than landing every few minutes to download information from their heavy hard drives. Meanwhile, your home network would be so much more secure with Li-Fi. Think of all the software needed to prevent your computer from being hacked: WEP, WPA, WPA2, all with their own super-secret passwords. You know how you make a home Li-Fi network secure? Close the curtains. You can't hack what you can't see.

Funny what you can learn driving a truck through the desert.

FPM