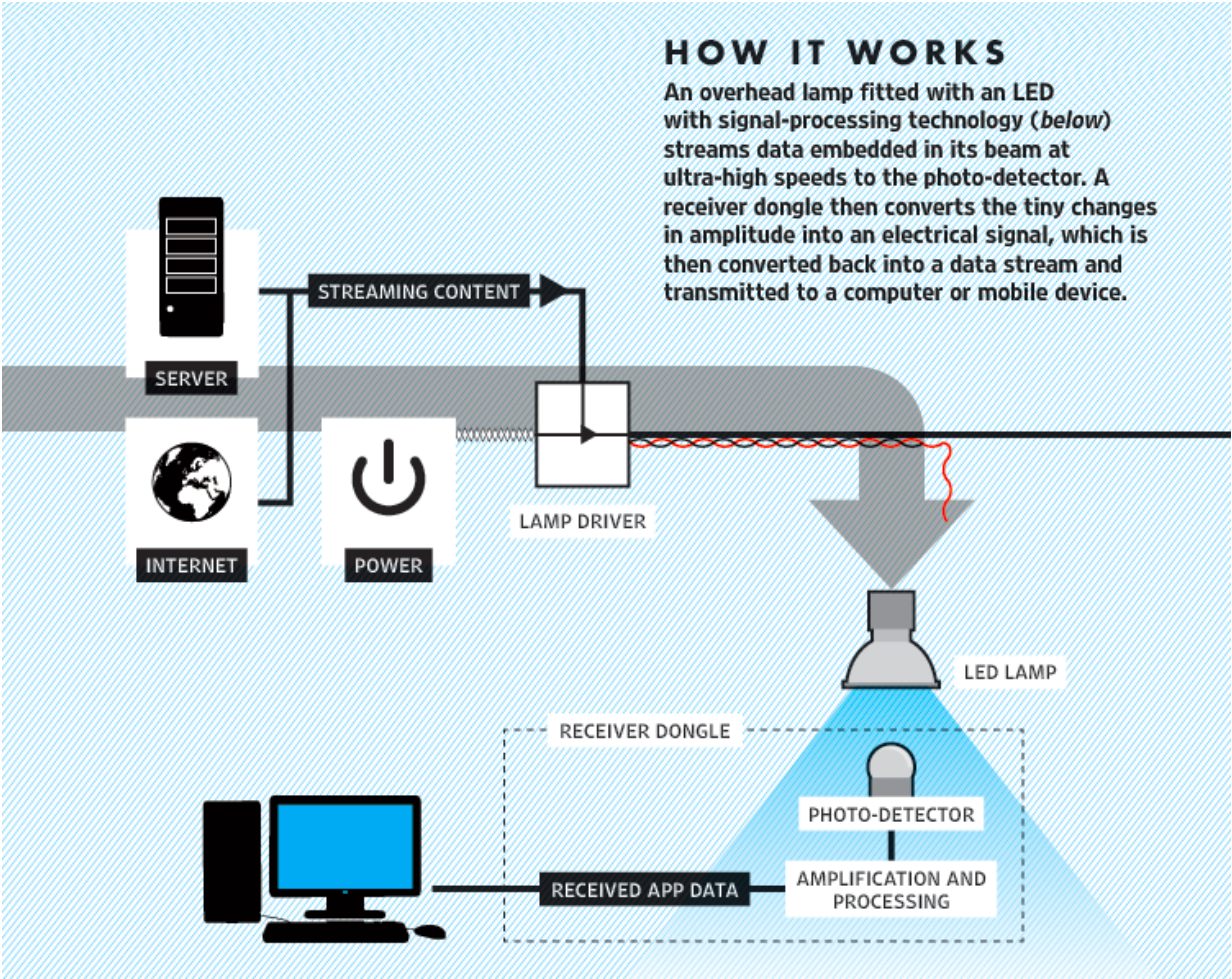


Using lights for communications? Haas, pureLiFi, see brighter future

November 26 2015, by Nancy Owano



How does visible light communications (VLC) work? Credit: pureLiFi

Will solar-powered wireless communication benefit millions in the years to come? That is the hope of enthusiasts seeing a future in Li-Fi, wireless technology which, said optics.org, is wireless—only not as we know it.

Li-Fi, coined by University of Edinburgh's Professor Harald Haas, is a [wireless technology](#) which refers to visible light communications (VLC) [technology](#) delivering a high-speed, bidirectional networked, mobile communications in a similar manner as Wi-Fi.

Li-Fi technology was first demonstrated by Professor Harald Haas of the University of Edinburgh, [said](#) *The Telegraph*.

Haas, meanwhile, has explained how Li-Fi technology can be integrated with solar cells to receive data, said optics.org. He has said the likes of solar panels on houses or smart watches can [absorb](#) power and receive data at the same time. "With this technology, so-called [smart watches](#) could be powered and connected to the Internet through light."

Haas is now chief scientific officer at a company called pureLiFi, recognized as leaders in Li-Fi [technology](#) Haas first demonstrated Li-Fi technology 2011.

The company was a spinout from the University of Edinburgh and described by optics.org as one of the global pioneers using the [visible light spectrum](#) rather than radio frequencies for wireless data communication.

Haas has made note of the fact that this approach translates into higher efficiency and safer communication in risky environments such as in chemical plants. Li-Fi can use off the shelf LEDs to transmit data incredibly fast, he said, and in a secure manner. He said, "We have many LEDs around us, a rich infrastructure of LiFi transmitters around us."

Haas has addressed the photonics community about the progress of Li-Fi communications at Strathclyde University, Glasgow. Haas said it could be of beneficial impact populations in rural communities with no infrastructures for electric power, the Internet and Wi-Fi access.

He also said in optics.org, "Using the optical spectrum is a way to turn wavelengths delivered from LEDs into smarter communications environments that also save energy,"

Brandon Hill on Tuesday in *Hot Hardware* commented on Li-Fi. He said. "In its current iteration, Li-Fi uses LED lights, which flicker at a rate that is imperceptible to the human eye, to transmit [data](#)."

On Wednesday, Adam Boulton of *The Telegraph* reported that this super-fast alternative to Wi-Fi has proven capable of sending data at up to 1Gbps in real-world tests. He was referring to a pilot scheme by the startup Velmenni.



How does visible light communications (VLC) work? Credit: pureLiFi

Anthony Cuthbertson, technology reporter at *International Business Times UK*, said the startup has implemented the technology in a commercial context.

Velmenni revealed that it has begun trialing the technology in offices and industrial environments. "The Li-Fi technology used by Velmenni in the pilots," said Cuthbertson, "is able to send data at up to 1GBps - more than 100-times faster than current Wi-Fi technologies. At these speeds, a high-definition film could be downloaded in just a few seconds."

"We are doing a few pilot projects within different industries where we can utilize the VLC ([visible light](#) communication) technology," Deepak Solanki, CEO of Velmenni, told *IBTimes*. "Currently we have designed a smart lighting solution for an industrial environment where the data communication is done through light. We are also doing a pilot project with a private client where we are setting up a Li-Fi network to access the internet in their office [space](#)."

Meanwhile, a pureLiFi announcement said pureLiFi and Lucibel, a French company focused on lighting solutions based on LED tech, are to co-develop and market "Europe's first, fully industrialized LiFi luminaire." Haas said, "The collaboration with a lighting manufacturer such as Lucibel is an important milestone as it signifies that the lighting industry embraces the new ground-breaking business opportunities that LiFi will enable."

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