



pureLiFi

EPIC Online Technology Meeting on Free Space Optical Communication and LiFi

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The connected world demands LiFi

5G Design Requirements

- **1 Gbps +** Speeds
- **10000x** Bandwidth
- **1ms** Latency
- **10-100x** more devices
- **90%** less energy



We've demonstrated LiFi at 15Gbps with off-the-shelf, LEDs costing <\$1



RF spectrum is saturated, and able to offer only 5% of required capacity in the coming years. LiFi capacity in the light spectrum is more than 1,000x larger than RF.



Wi-Fi's total throughput plummets to >1,000x lower than LiFi as more devices connect to the network.

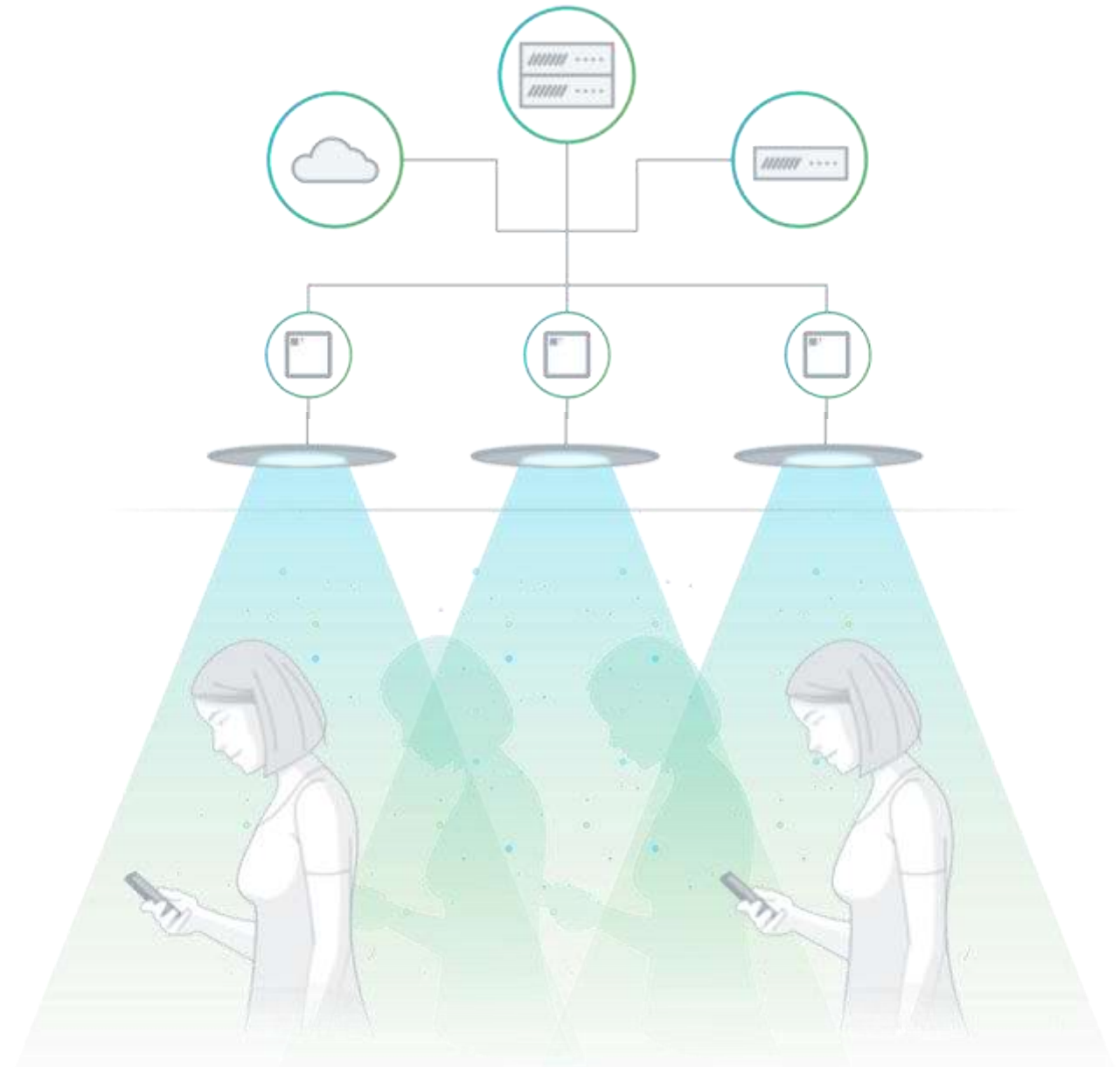


LiFi will achieve much higher data density than cellular & WiFi as wireless devices balloon to 50 per home in the next 5 years.

What is LiFi

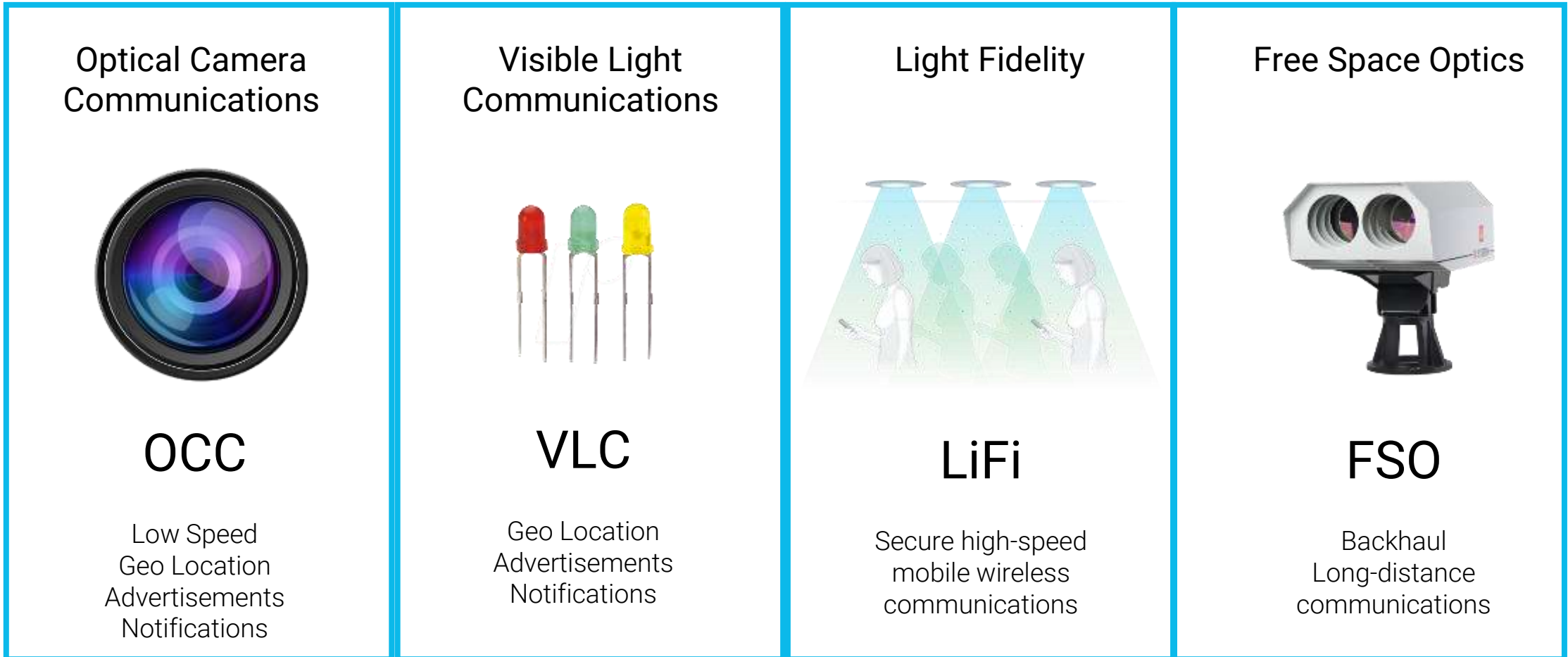
LiFi is high-speed, bidirectional wireless communications using light.

LiFi does not use radio frequencies and due to its unique physical properties LiFi provides greater security and can eliminate interference all together.



The Taxonomy of Light Communications

Not all light communications is LiFi. It's important to understand the differences between these types of communications, as they all have different applications.





Technology to push the limits of wireless.



Speed & Bandwidth

LiFi can deliver multiple Gbps speeds in mobile devices. LiFi will drive wireless beyond any current capability opening up unprecedented bandwidth.



Quality of Connection

LiFi provides enhanced reliability enabling interference free communications and 1000 times the data density, dramatically improving the user experience.



Low Latency

LiFi currently offers latency by a factor of three times lower than Wi-Fi and can radically enable innovation, automation applications such as AR and VR



Security

Light can be contained, and secured in a physical space. LiFi enables additional control and offers precise localisation for asset tracking and user authentication.

Limitless applications

Defence &
Environment

Data
& Industrial

Office &
Commercial

Retail
& Financial

Smart City
& Transport

Consumer
& Lifestyle



Field command
Secure comms
Harsh enviro
Underwater

Data centres
Industry 4.0
IoT sensors
Safe enviro

Smart building
Secure comms
Dense network
Net offload

Indoor location
Shop analytics
Payments
Back office

Smart city
Smart transport
Streetlights
Backhaul

Mobile devices
Smart home
Entertainment
Lighting



Generations of LiFi Products



2013



2014



2015/16



2017



2018



Design-in!

LiFi is ready

Proven technology & accelerating momentum

200+
deployments

20+
countries

20+
use cases



pureLiFi chairs the IEEE 802.11bb Task Group
standardising LiFi in WiFi alongside 5G

We co-founded the **Light Communications Alliance** with the biggest names in telecom, networks, lighting, semiconductors & devices.



Driving standards & leading the ecosystem





Established in 2012 as a spin
out from the University of
Edinburgh

Headquarters In
Edinburgh, Scotland

Sales units in North America,
Asia and Europe

Staff driving innovation,
development &
commercialisation

Thank You

