



trulifi

by Signify

Light is a new intelligent language

Mike Bischoff | November 2019

Signify

Signify is the World Leader in Lighting

We offer high-quality and energy-efficient lighting products, systems and services

Lamps



Luminaires



Systems & Services



No. 1

Conventional Lighting,
LED, Connected Lighting

6.4 Bil. €

Sales in 2018,
~ 75% in B2B

27.000

Employees in 70
Countries

No. 1

Industry Leader Dow
Jones Sustainability
Index

Our Global Brands

Signify markets the highest quality light brands in the world



Our global brand for professional and consumer lighting products



Our Internet of Things platform and connected lighting systems



Our global brand in dynamic architectural lighting systems

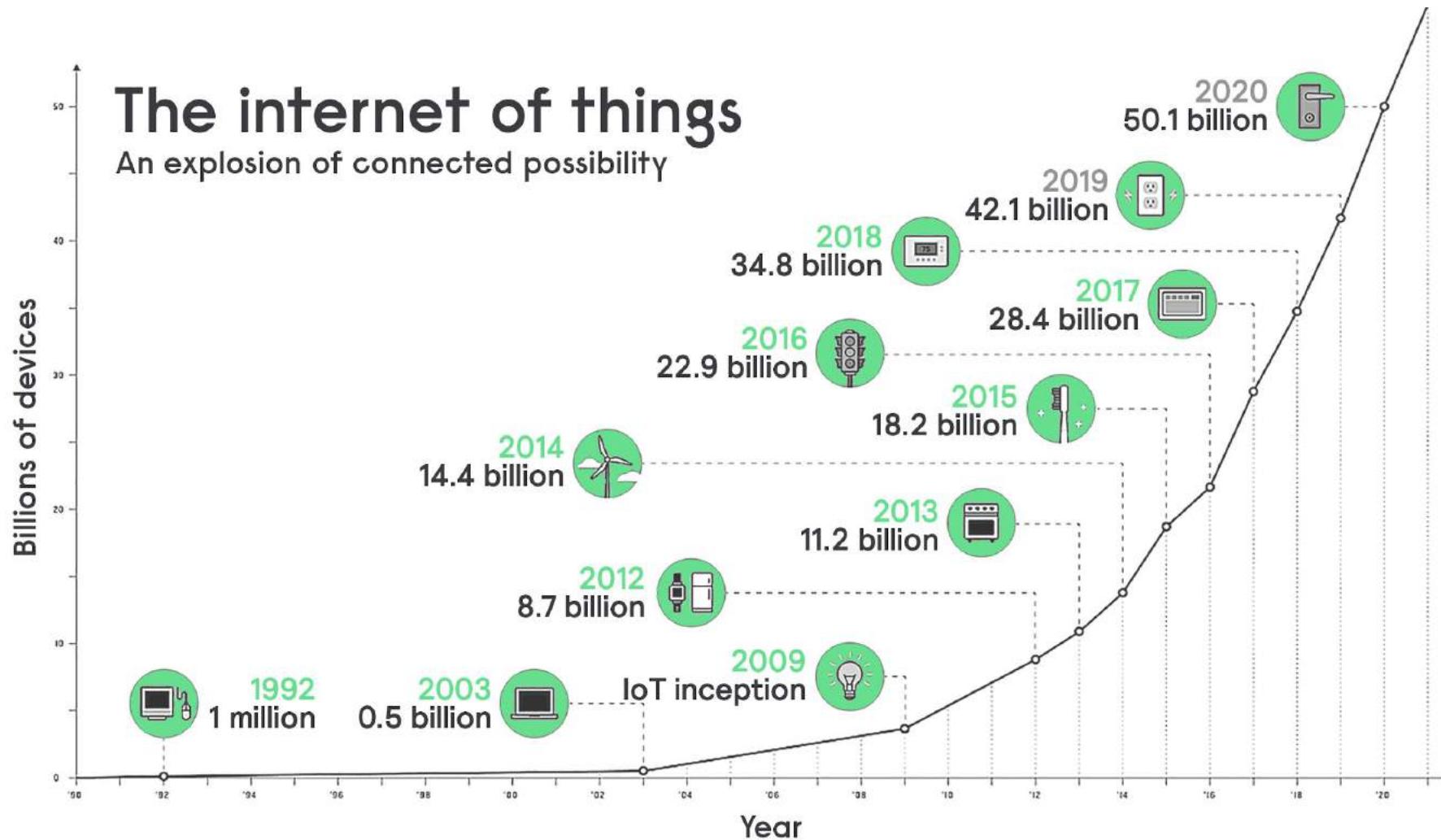


Our Connected Home brand



Our international brand in architectural lighting

How do we connect the billion of devices in the future?



Distribution

Today, data traffic is distributed either via wire or via radio communication

Wired

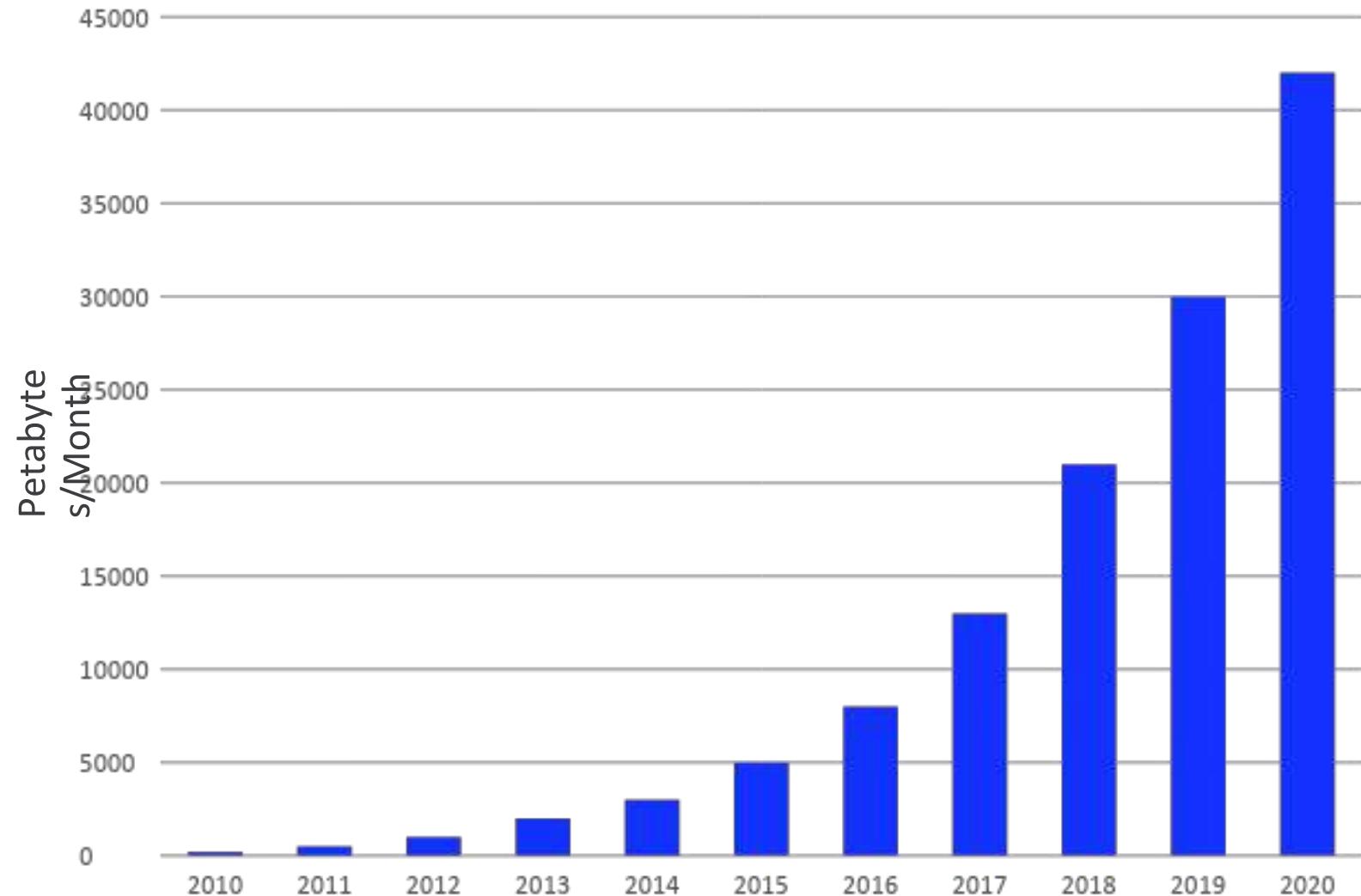


Wireless

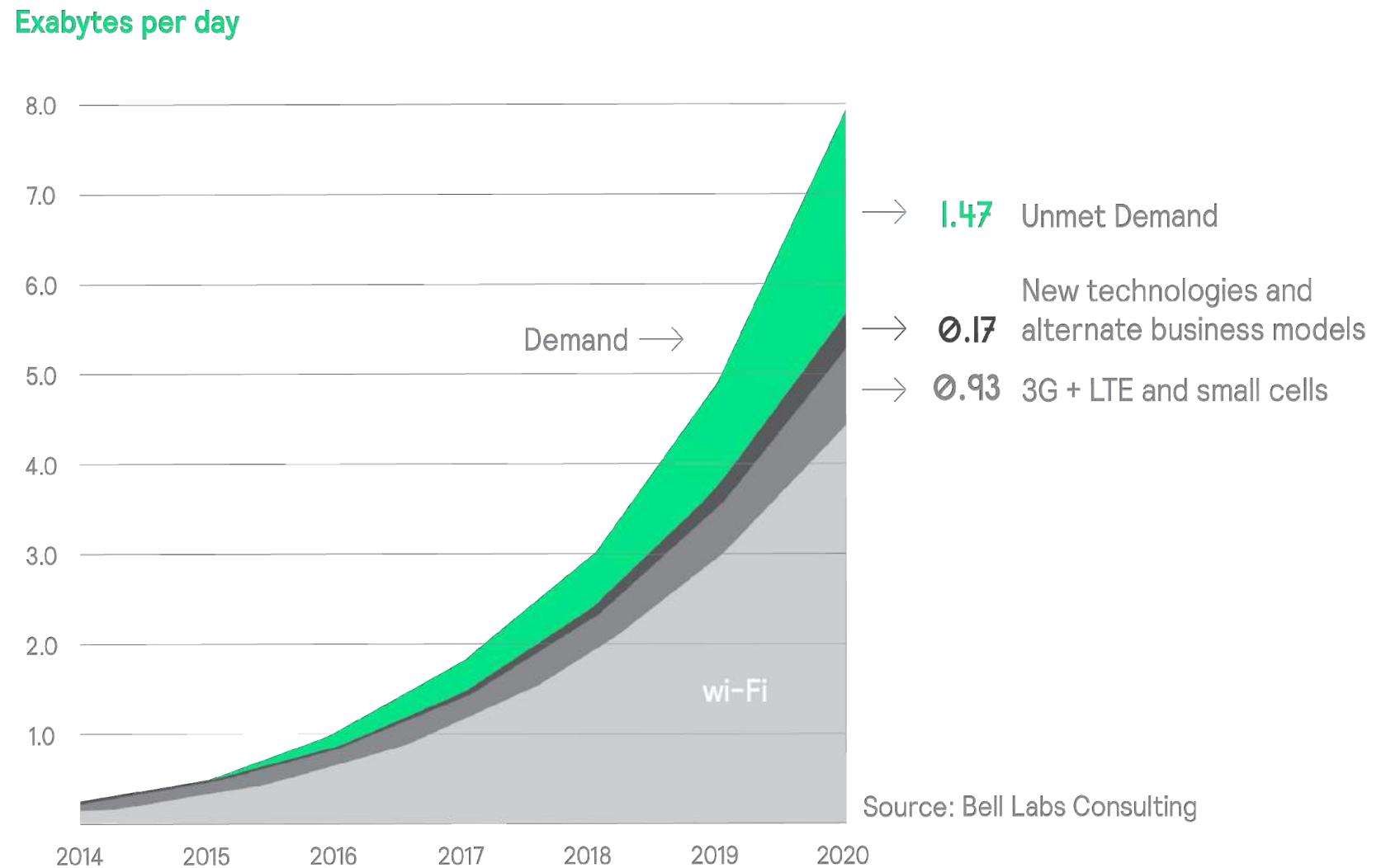


The worldwide
data
communication is
rapidly increasing

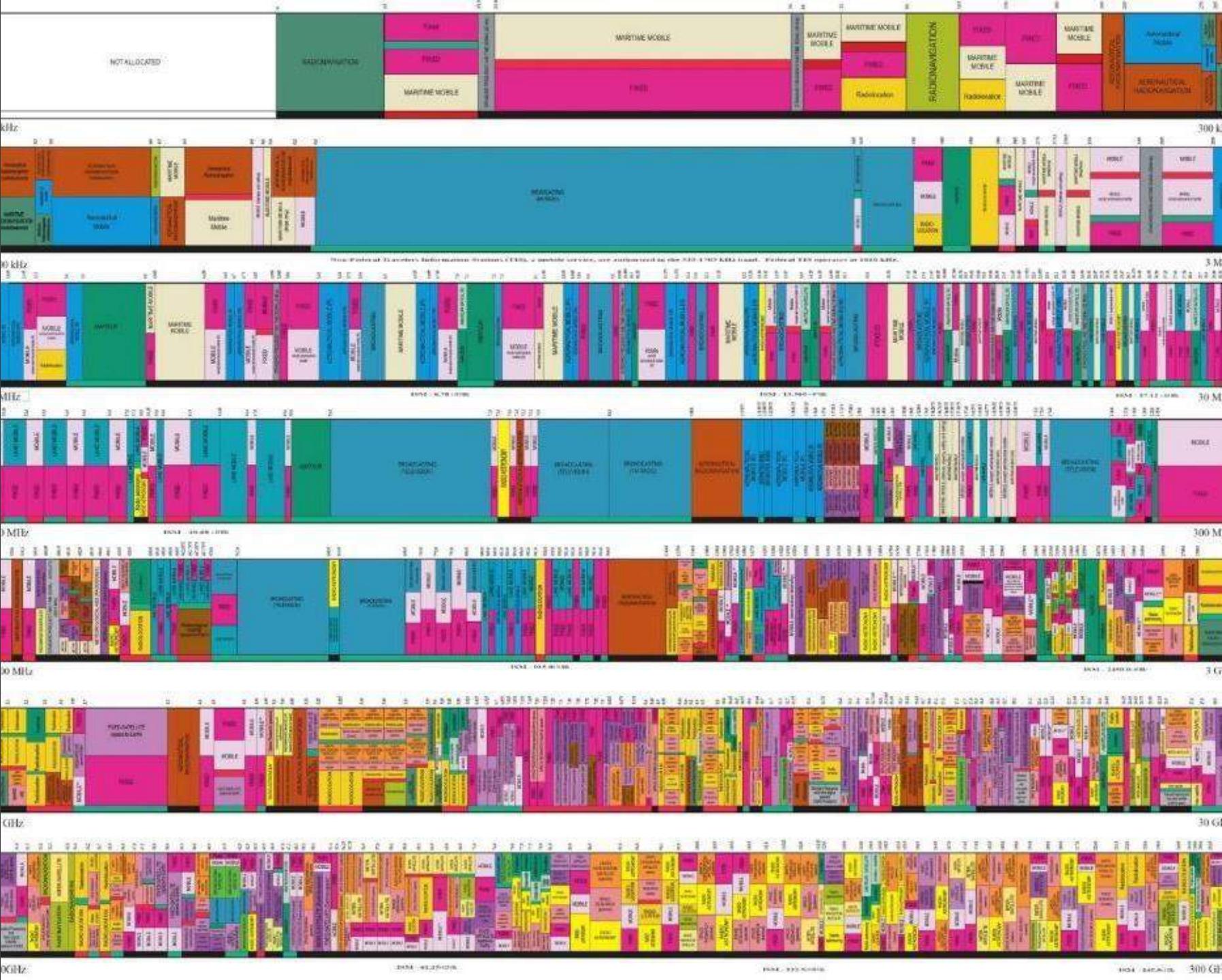
Worldwide data traffic



Can supply keep up with demand?



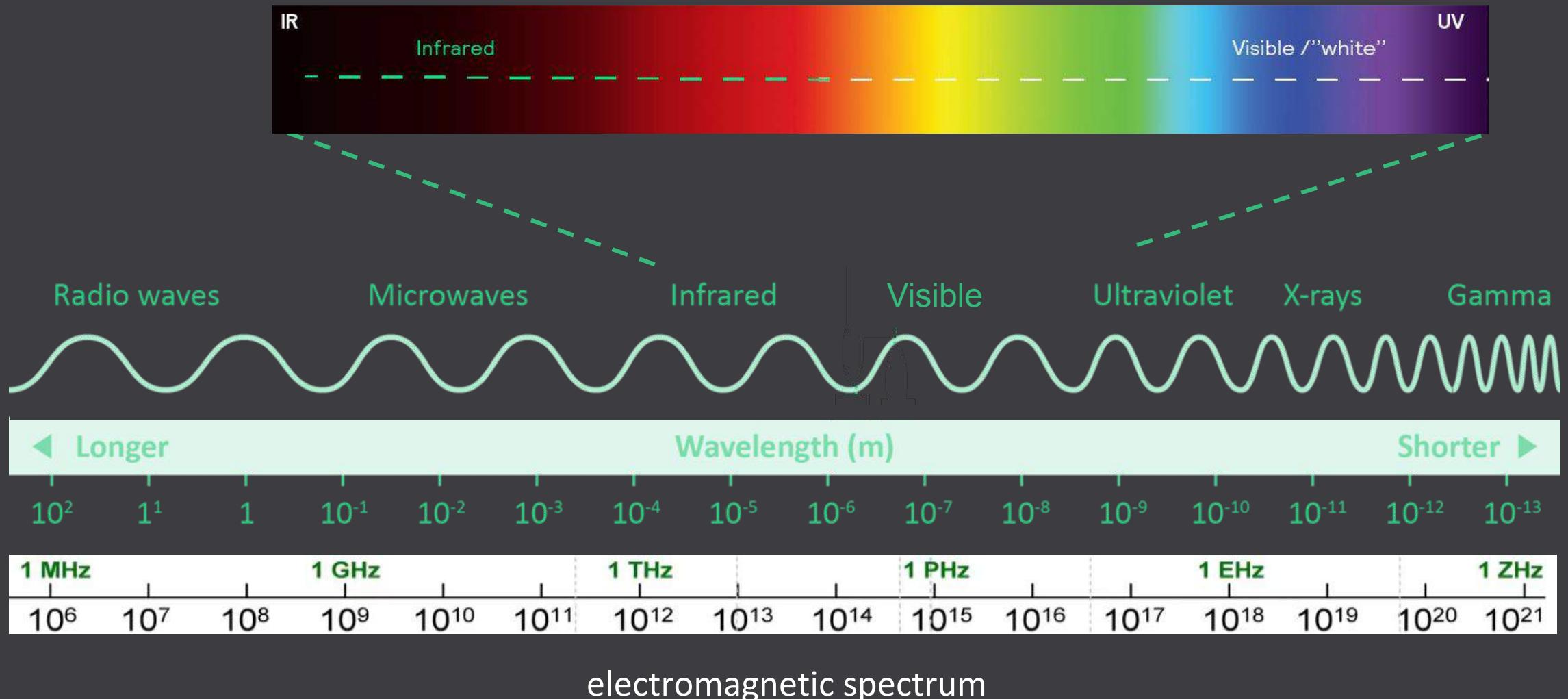
The radio spectrum does not provide enough room to grow.



**On top of that there
is a growing
concern on security
using
radio-communicatio
n**



Lighting can provide additional spectrum to communicate



Light is already there... so why not transferring data via visible light?



Advantages of LiFi

The light spectrum is 1000 times larger than the spectrum of radio waves that are used for WiFi



Advantages of LiFi

Secure solution

We want to work wireless but privacy is crucial for our business

LiFi offers a strict definition of your communication area.



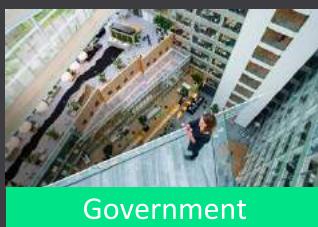
Corporate



Healthcare



Banking



Government

Reliable High-Speed Connections

We want a stable and high-speed data rate per user regardless of the number of users.

LiFi ‘offloads’ WiFi in high traffic areas

Speed 150 mbps - That's fast enough to stream simultaneously 30 1080p HDTV movies.



Corporate



Hospitality

New Applications

We want a stable connection even in some radio frequency sensitive areas with poor or no WiFi.

LiFi offers a very good (interference-free) connection.



HealthCare

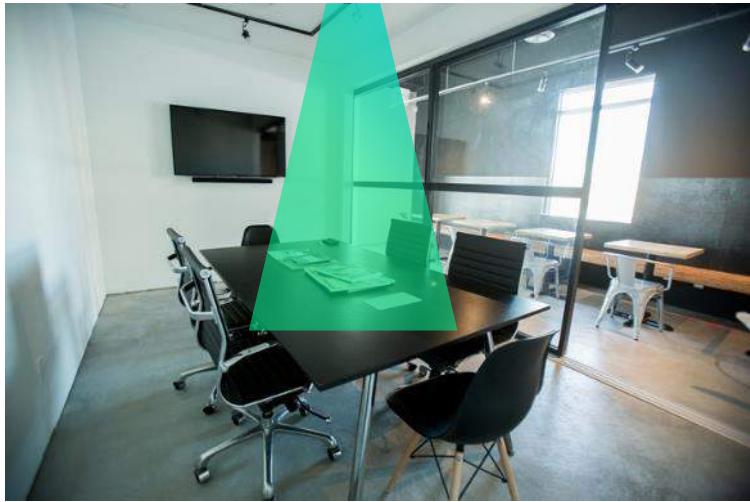


Industry



Schools

Areas of application in the office environment



Meeting rooms



Workstations



Visitor waiting areas

Areas of application in the processing industry



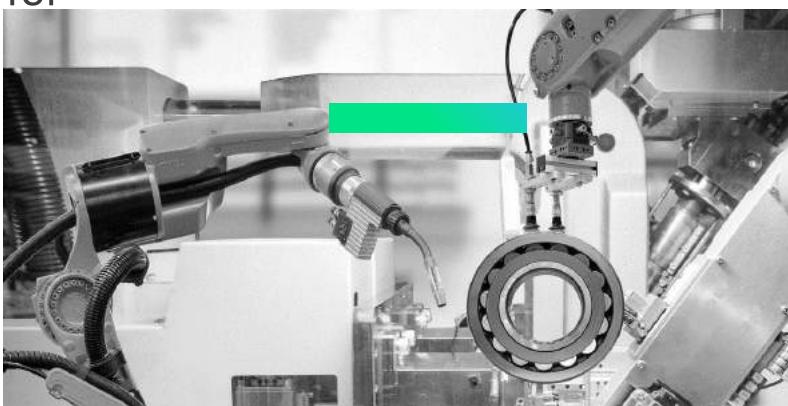
Workstations



Radio
hostile
environm



Network
for



Machine
to
machine

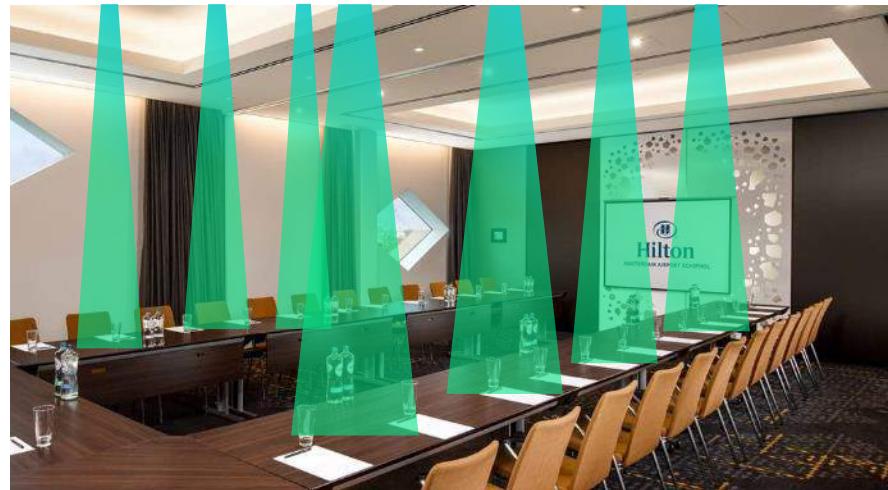


High
ceilings



Fast
moving
objects

Hotel Business



Meeting rooms

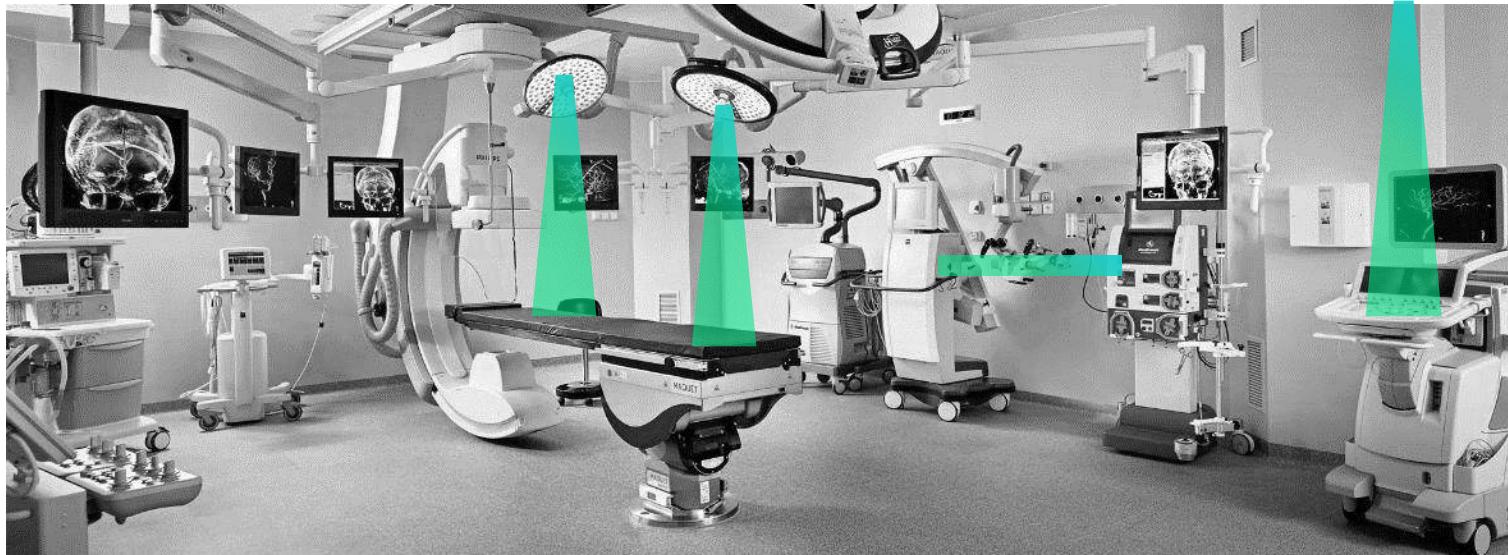


Workstations
in
reception
areas

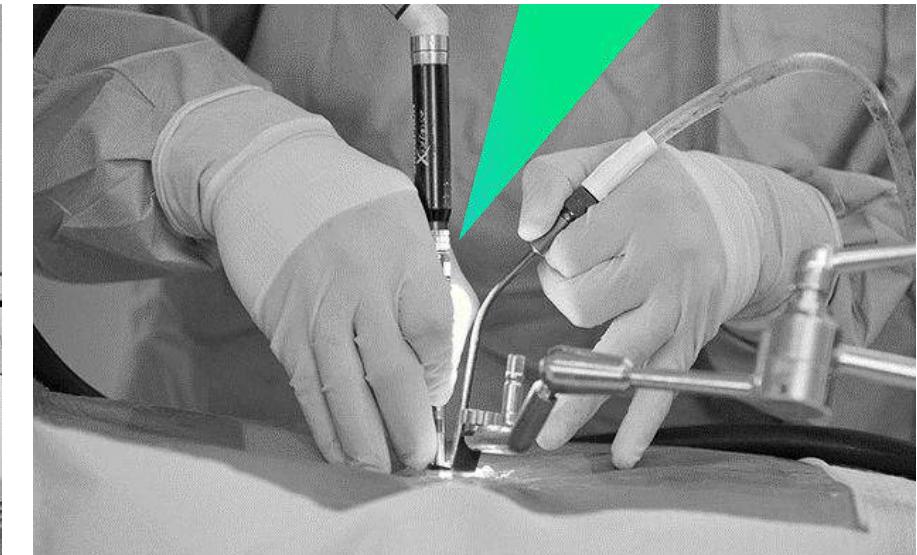


Guest
rooms

Medical Areas



- Patient monitoring
- Doctors works



Non-invasive
Chirurgie

Further fields of application



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Further fields of application



City and Street Lighting



Airplanes



Bus



Indoor Positioning



Railway Stations



Underwater



Vehicle2Vehicle Communication



Solar Panel as broadband receiver

How does LiFi work?

Basically there are 2 variants - Coded Light and LiFi

Optical Wireless Communication (OWC)

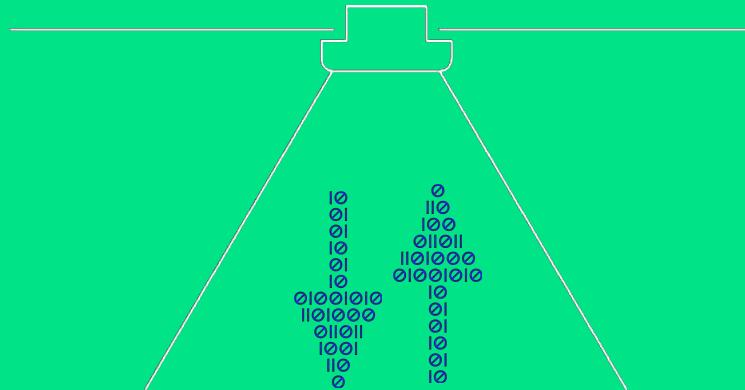
Visible Light Communication (VLC)

Infrared (IR)

Coded Light

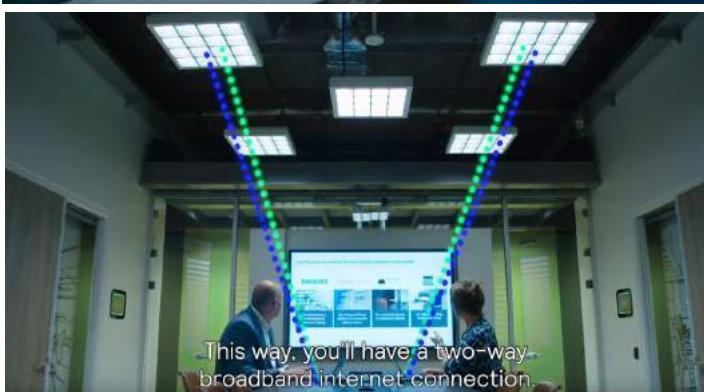
- **One-way communication**
 - sends identifier/code - low data rate
 - Data reception via smartphone camera
 - Localization of persons/devices in the indoor area

Lifi



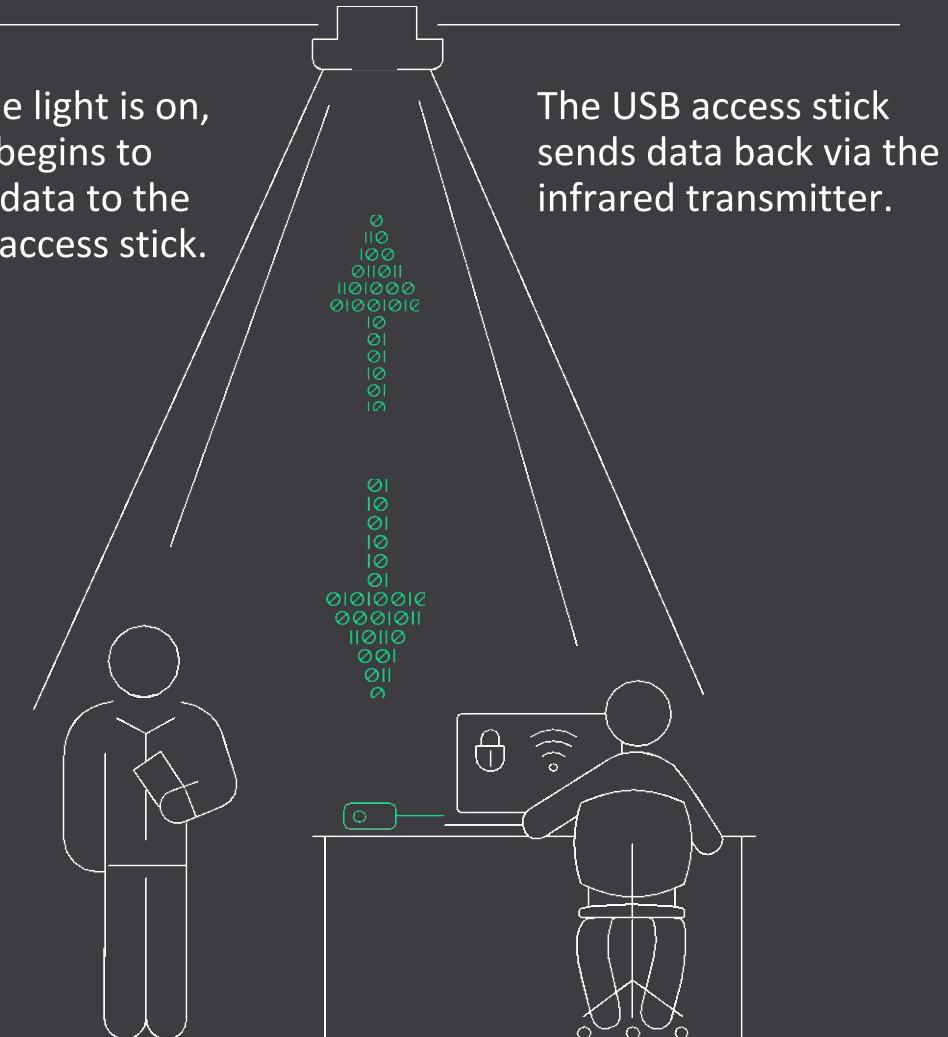
- **Two-way communication**
 - Broadband - high data rate
 - Data reception via USB access stick / dongle
 - Provision of wireless broadband Internet

How truelifi works



Ethernet connection

When the light is on, the LED begins to transfer data to the LiFi USB access stick.

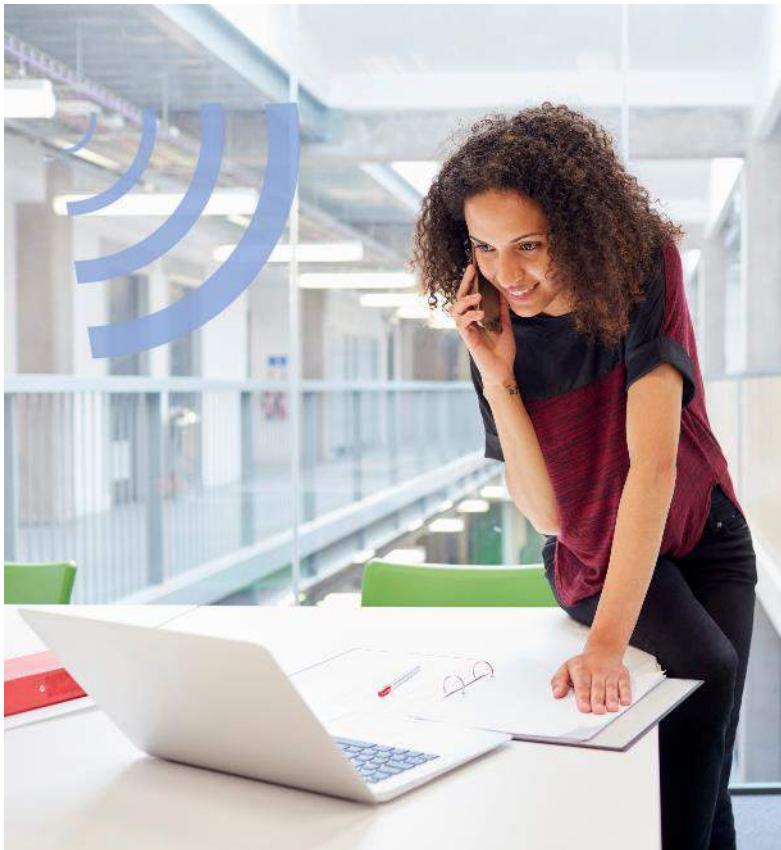


Modem for modulating the LED light is integrated in the luminaire.

The USB access stick sends data back via the infrared transmitter.

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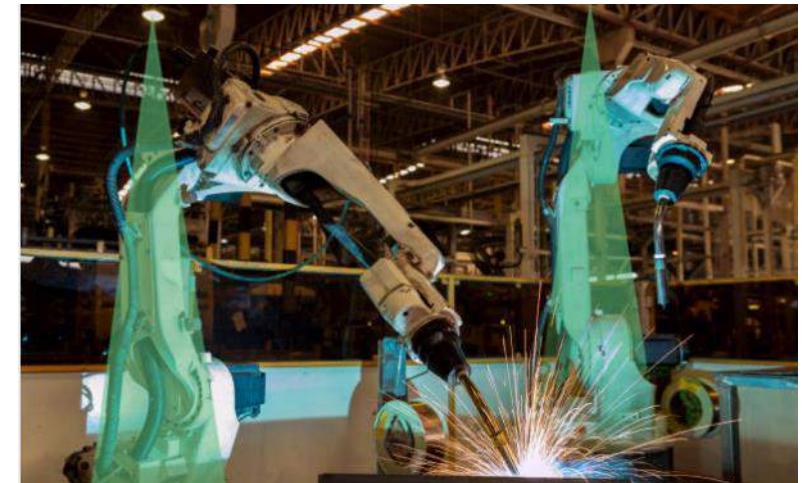
Trulifi Portfolio: Reliable, secure & fast



Trulifi 6001, published 2018. Integrated in Philips Luminaires, with Visible Light Communication, 30Mbps.



Trulifi 6002, New. Integrated or retrofittable in Philips Luminaires. Infrared. 150 Mbps, 128 bit.



Trulifi 6013, New. Fixed point-to-point system: 250 Mbps. Works with 3 different light colours. 128-bit AES CCMP Encryption.

LiFi beim HSV



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LiFi in the Volkspark Arena

150 Mbps for reporters
who need to write, edit
and upload their reports
under time pressure

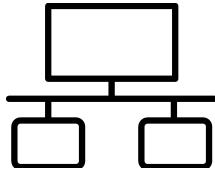


Planned expansions for the future

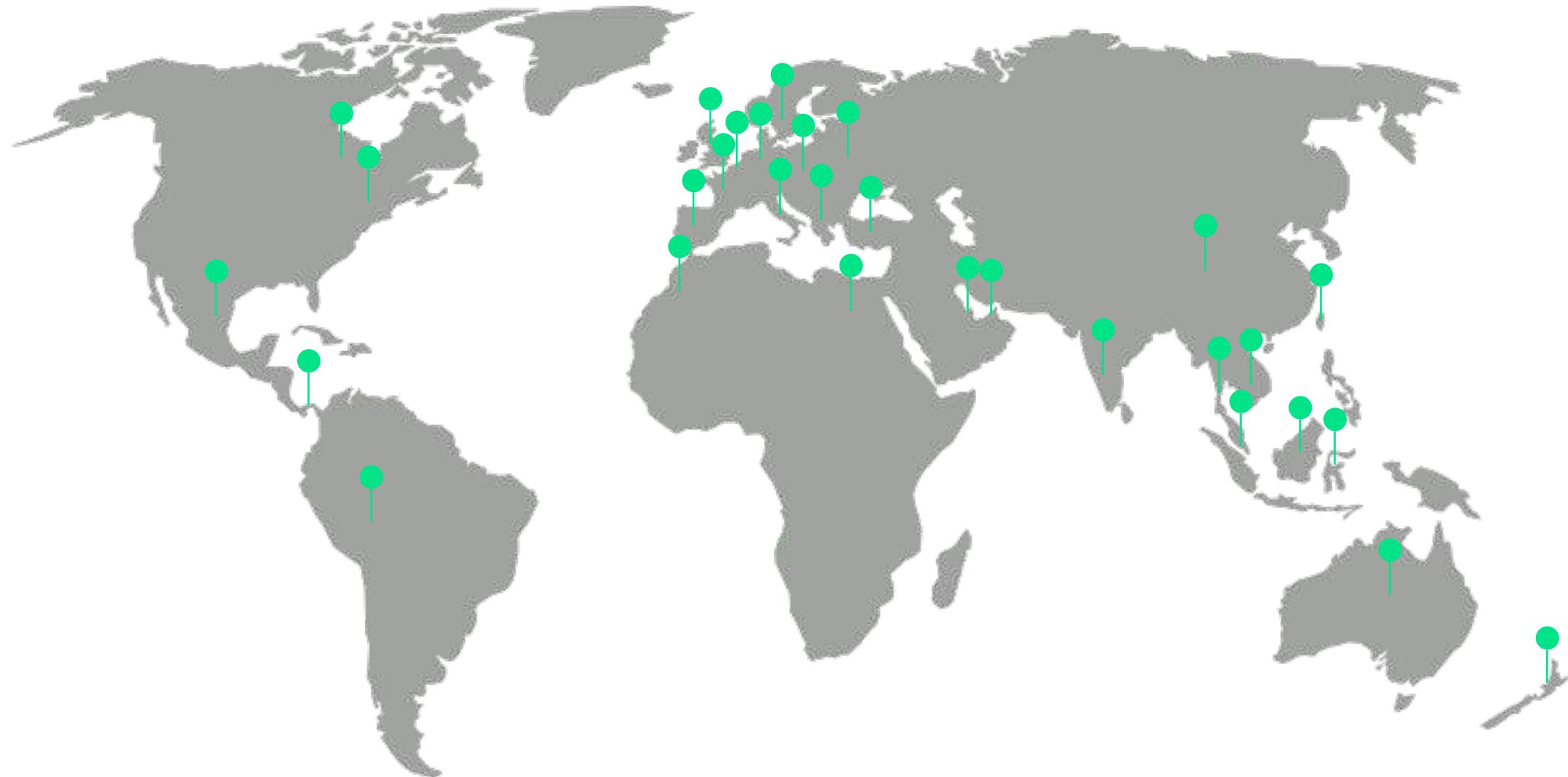
Installation of light poles
to upload large image
files directly at the edge
of the field to the
relevant photo editors



LiFi is not replacing traditional radio communication, but completes the offering



We are rolling out LiFi today



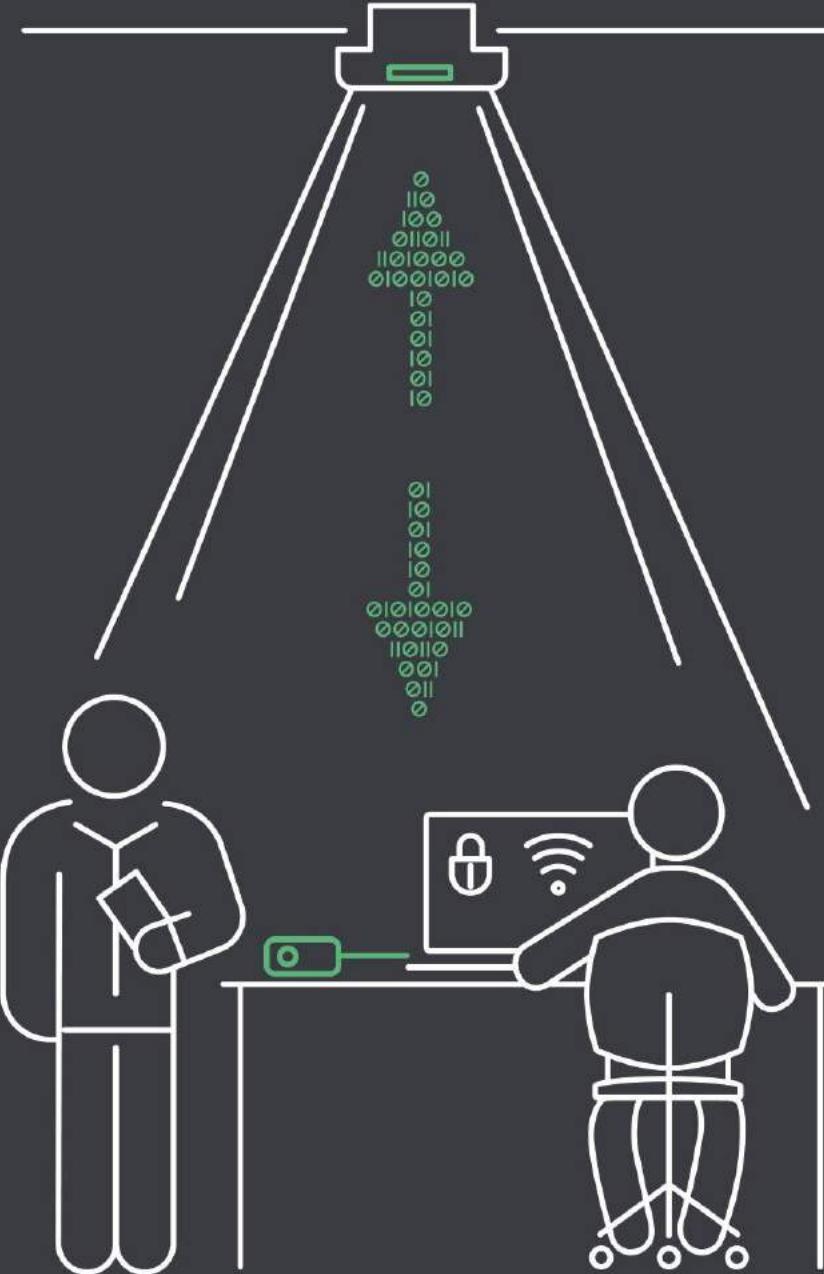
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by signify

**trulifi: the world's
most reliable,
high-speed
commercial LiFi
systems**

**Ready for the next
step?**



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The logo consists of a white lowercase 's' enclosed within a thin white circle. To the right of the circle, the word 'signify' is written in a bold, lowercase, sans-serif font.

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