



Light Communications Alliance

Outlines



- LCA in a nutshell
- The taxonomy of Light Communications
- Key members and LCA eco-system
- Structure of the LCA
- Added values of LC technologies
- Use Cases
- Light Communication Adoption tentative
- Conclusion

Light Communications Alliance (LCA) in a nutshell



MOTIVATION
Delivering the benefits of ubiquitous Light Communications to serve people & technologies, requires a far-reaching & coherent ecosystem working at a determined pace

MISSION
Driving a consistent, focused & concise approach to market education that will highlight the benefits, use cases & timelines for Light Communications

HOW
Aligning leaders across every industry to develop or envisage business models using Light Communication systems & technologies by defining a standard of education in an efficient communication & co-operation frame.



- Formed in June 2019
 - Press release: <https://www.linkedin.com/feed/update/urn:li:activity:6549301446368645>
 - Web site: <http://lightcommunications.org/>
- Background information:
 - White paper (May 2018): <https://futurenetworks.ieee.org/tech-focus/may-2018/light-communications-for-wireless-local-area-networking>



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.

Optical Camera Communications



OCC

Low Speed
Geo Location
Advertisements
Notifications

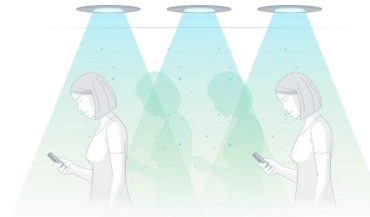
Visible Light Communications



VLC

Geo Location
Advertisements
Notifications

Light Fidelity



LiFi

Secure high-speed
mobile wireless
communications

Free Space Optics



FSO

Backhaul
Long-distance
communications

Key members



LiFi/OCC key players

Lucibel
NavTech
OLEDCOMM
PureLiFi
Signify
Velmenni
Zero 1

Applications

Crantec
OLEDCOMM
Signify
Zero1

Operators

**Emirates Integrated
Telecommunications
Company (EITC)**
Liberty Global
Orange

Equipment vendors

BKS Digital Connectivity
Solutions
GETAC
Nokia
Signify

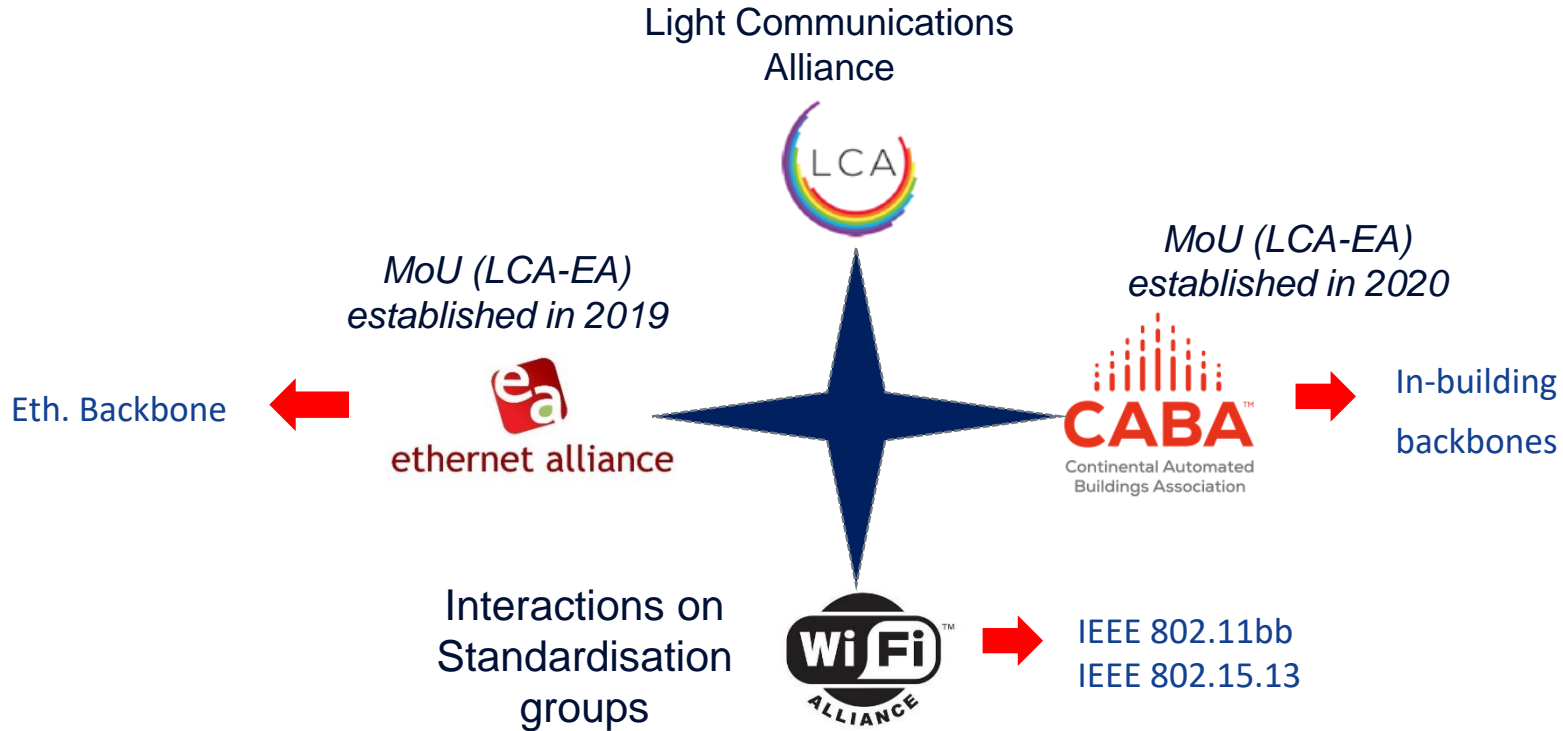
Networking and security

BKS
Crantec
Nokia
QRCrypto

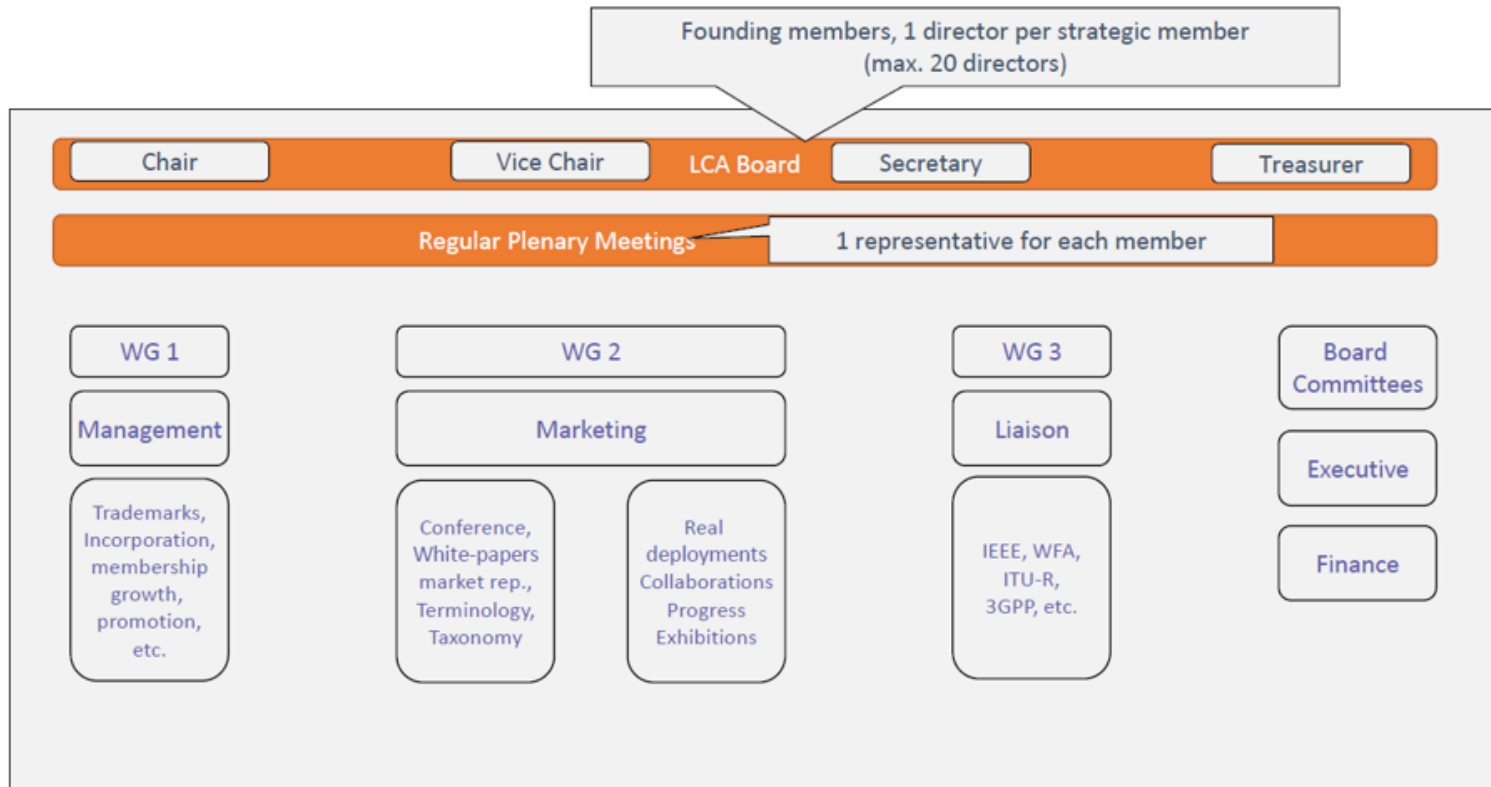
University/Research Institute

CEA
University of Edinburg
University of Strathclyde
Institut Mines Telecom

LCA eco-system



Structure of the LCA



Added values of LC technologies



- Ability to move to a new access point and guarantee a stable connection to the users, e.g. automatically select the most appropriate access point (Wi-Fi or LiFi) to offer the required bandwidth for the user.
- Ability to guarantee data communication continuity for some sensitive applications.
- Offer a wireless data communication system when Radio Frequencies can disturb other equipment.
- Improve the security of communications between two points because of the limited beam dimension, in particular with FSO technologies
- Complementary capability to a 5G IoT deployment to address critical KPIs.
- For specific low latency end-to-end solutions.
- To offer very simple and centimetric precision for indoor position systems.
- Green potential: energy efficiency and energy savings potential gains

Use cases (not exhaustive)

Catalyst: energy consumption

Smart Lighting/buildings:

- Energy efficiency
- Less maintenance
- Increased security



Catalyst: COVID-19

Hospitals:

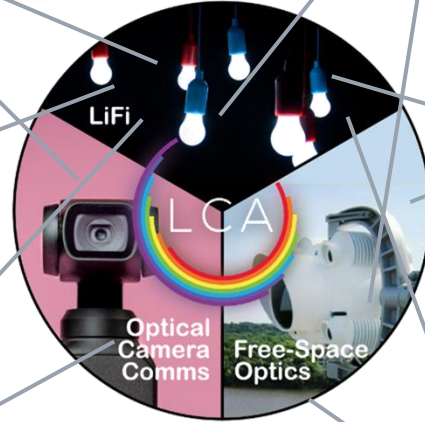
- Complementary solution
- >8K applications compliant
- Adapted to EM sensitive equipments



Catalyst: data security

Industry 4.0.:

- LiFi/FSO perfectly adapted to the use case
- Energy efficient
- Increased security
- Key technology for flexibility/agility



Catalyst: Human security

V2X.:

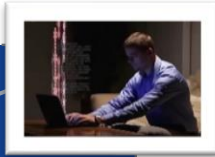
- Exploitation of existing masts
- Security increased (human security)
- Fast connection, small latency



Catalyst: COVID-19

Home applications.:

- Energy efficiency
- Adapted for Children (less EM)
- Data security increased



Catalyst: COVID-19

Smart cities:

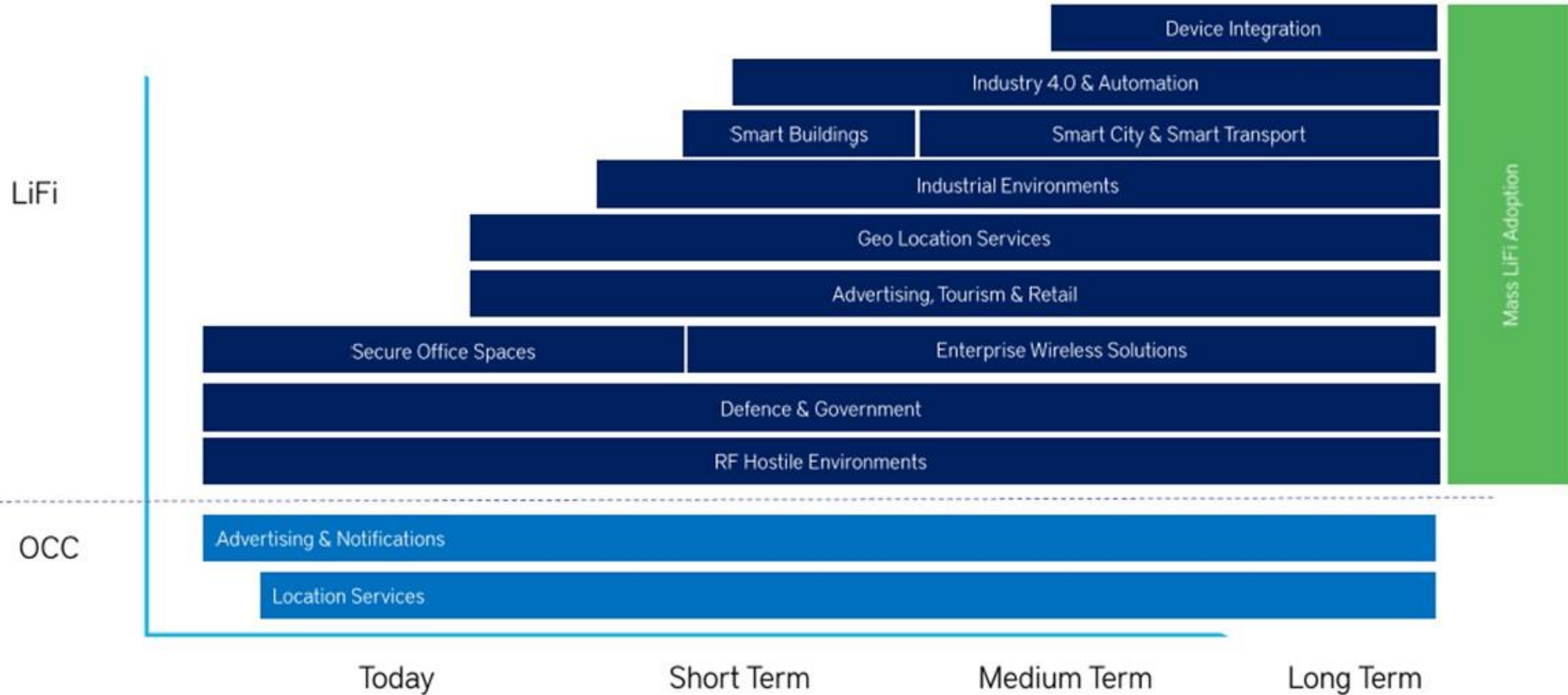
- Easy communication with terminals
- Sanitary advantages



Light Communication Adoption



LiFi vs OCC



Conclusion



- Market deployment started with Getac announcing the world's first integrated LiFi-enabled tablet
- Multiple testbeds, field trials & deployments in hospitals, industry 4.0, aerospace, logistical centres, etc.
- LCA has gained 7 additional members in 2020 after the official LCA kick off meeting
- Increased visibility in the ecosystem and expanding relationship with key organizations
- We're open to new members joining us and we look forward to speaking with you!