Intelligent lighting -

For the new normal and the future –

More than meets the eye!

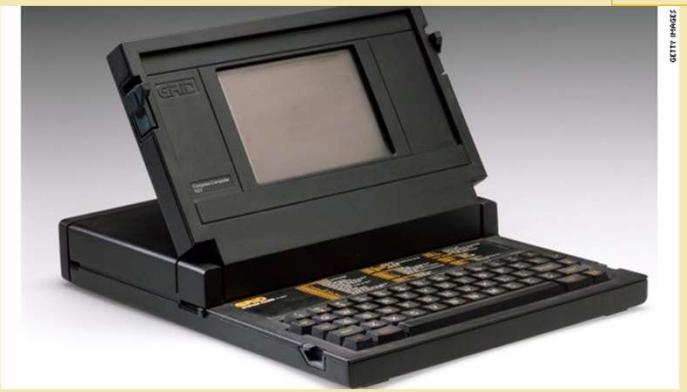
Prepared and presented by
Philip Hammond
BHA School of Lighting

Technology recap

64 KB RAM and 20KB ROM

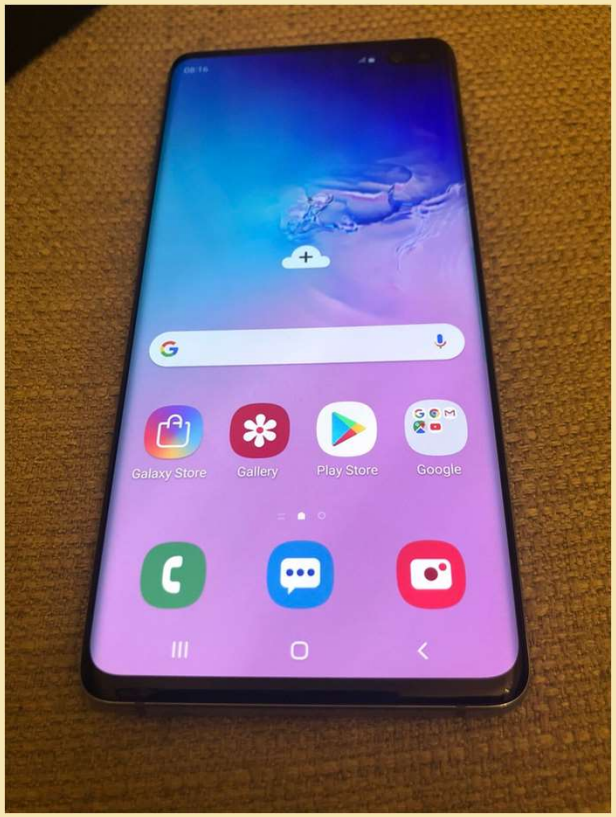
2MB RAM and 486 MB Floppy Disc

20MB Hard Drive and 2MB RAM
8kg



3.55MB Storage
12kg
Battery life 20 mins

Samsung Galaxy S10+



8 or 12GB RAM

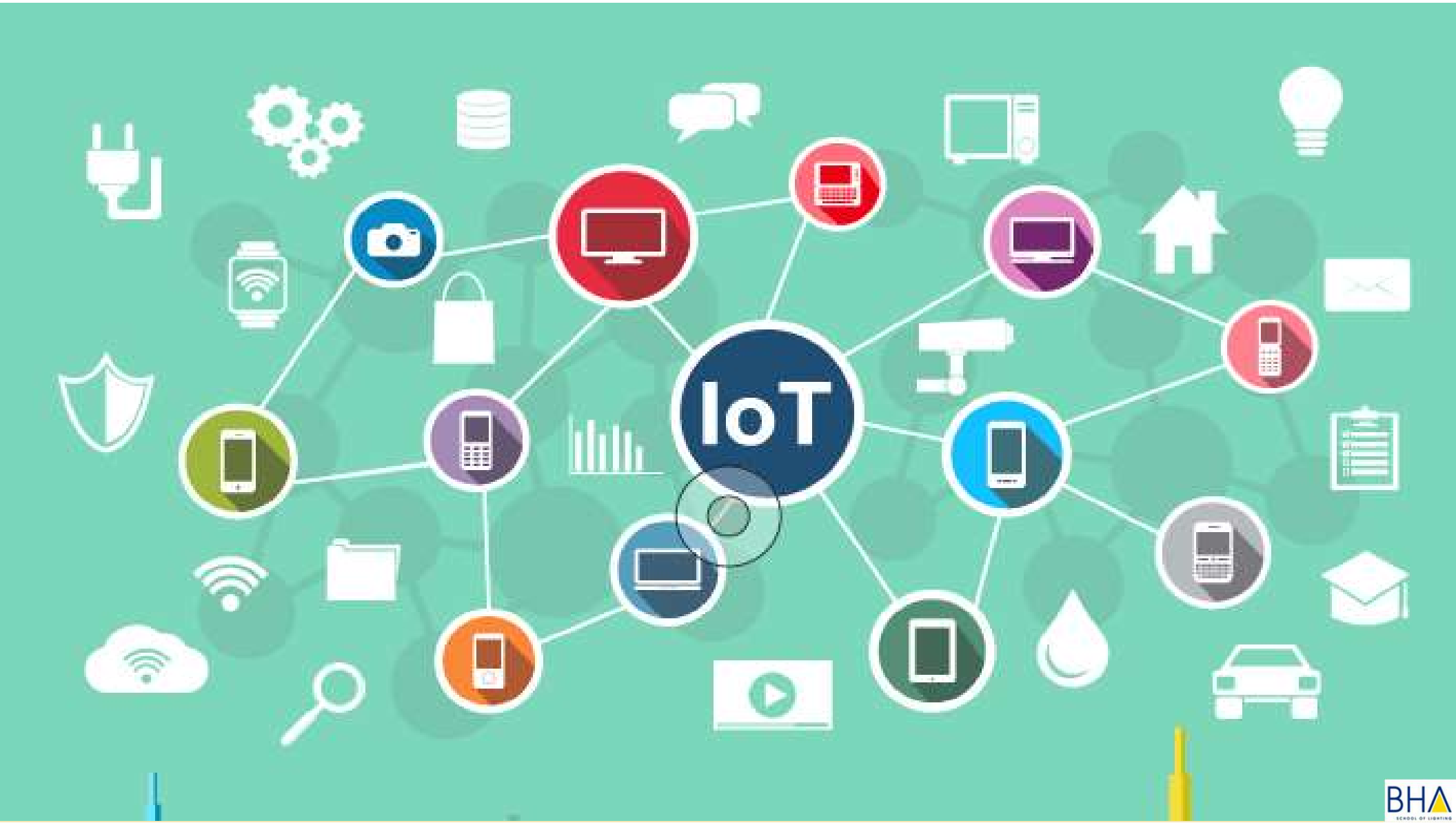
28GB Storage to 1TB Storage

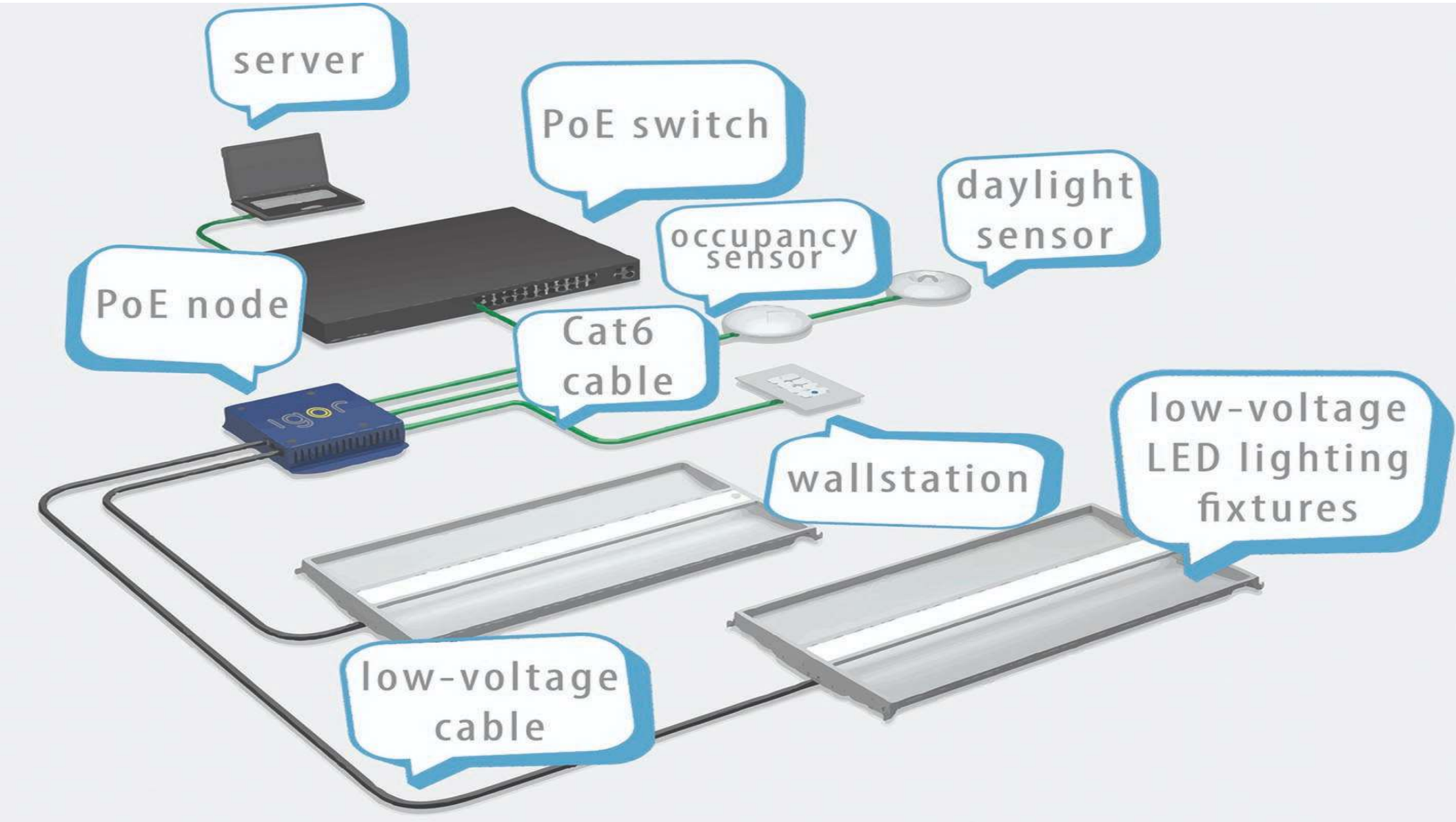
QHD

175gram

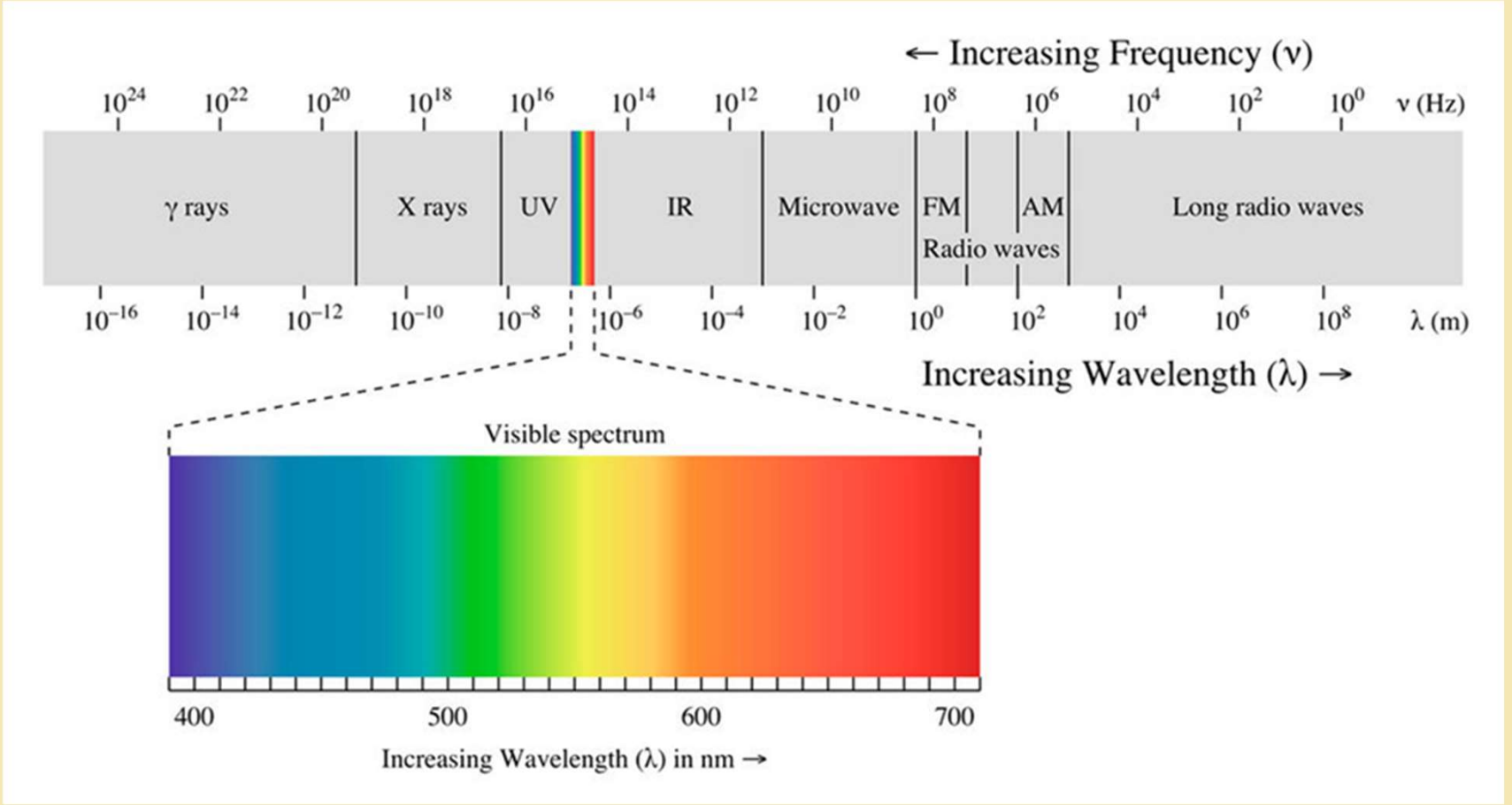
Triple Cameras

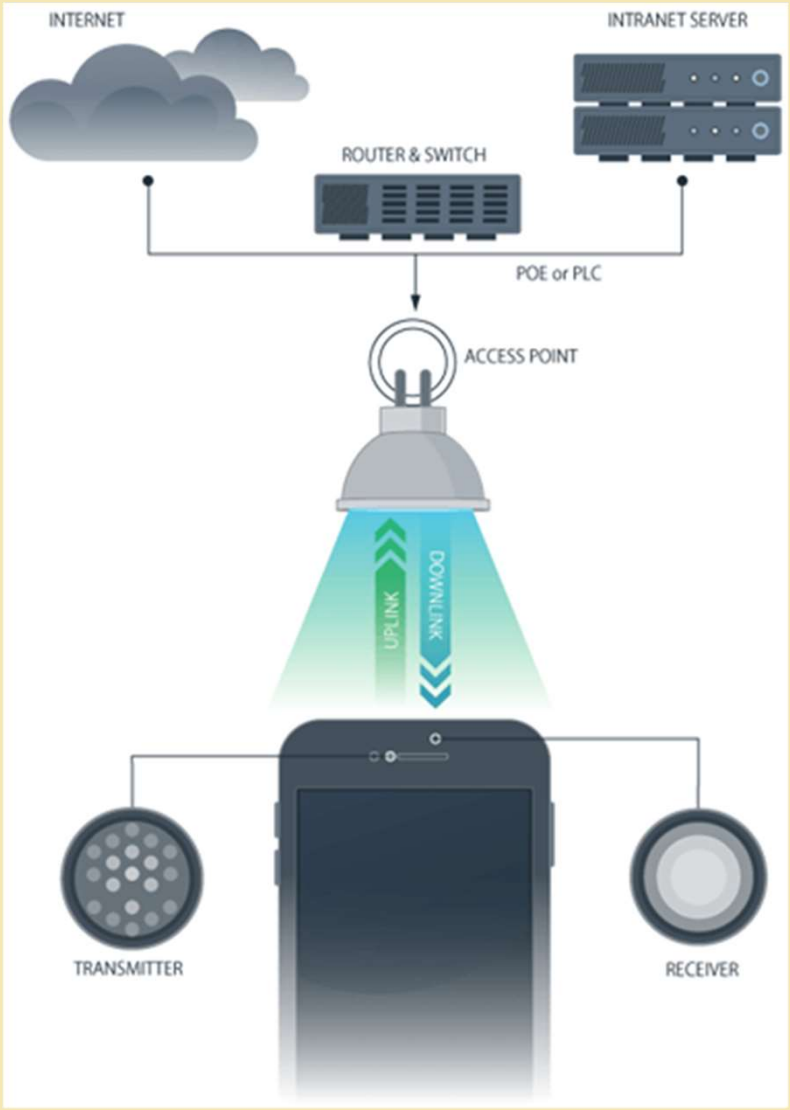
Sound zoom in


IoT


server
PoE switch
daylight sensor
occupancy sensor
PoE node
Cat6 cable
igor
wallstation
low-voltage LED lighting fixtures
low-voltage cable

How VLC works



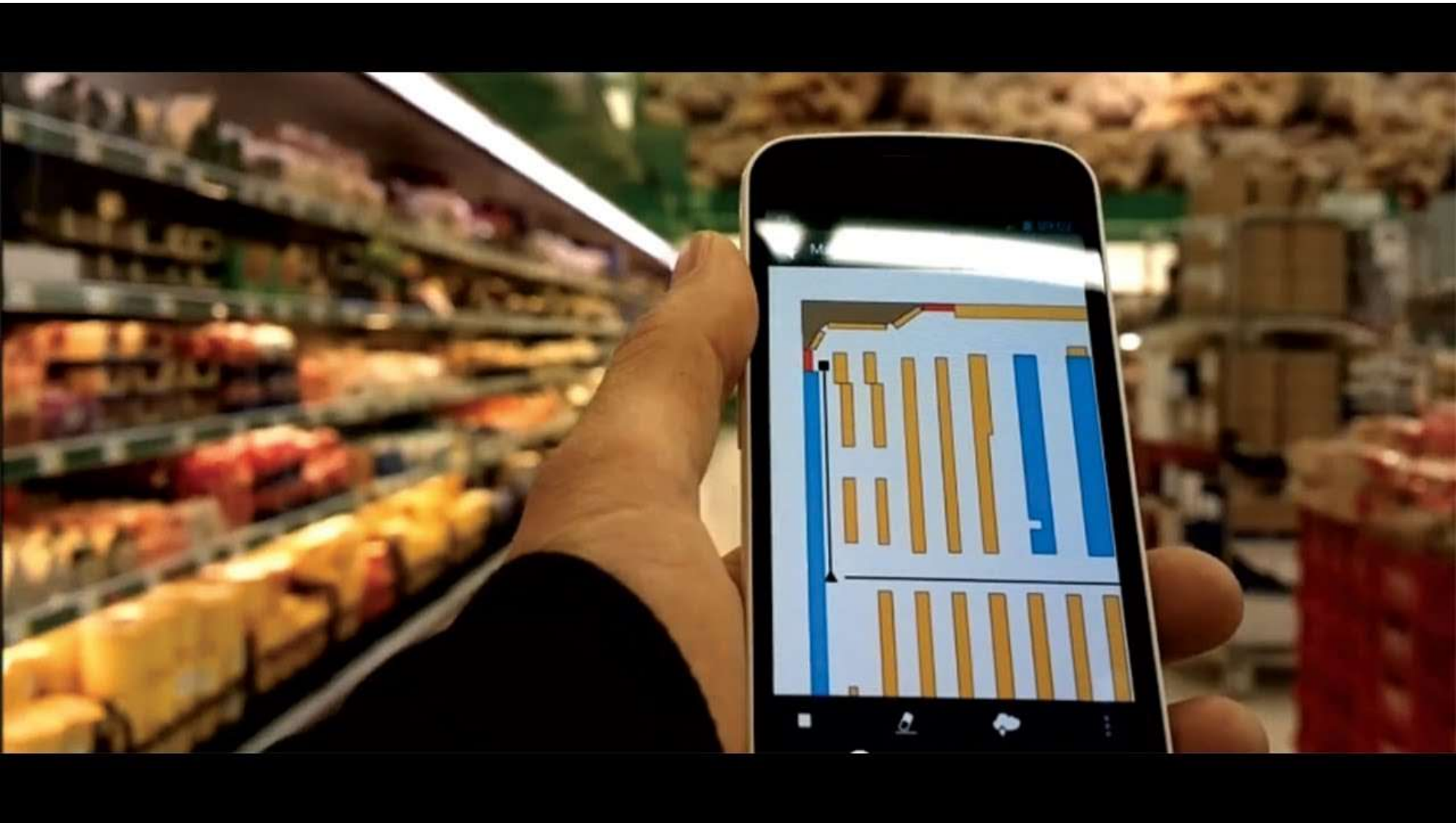

INTERNET
INTRANET SERVER
ROUTER & SWITCH
POE or PLC
ACCESS POINT
UPLINK
DOWNLINK
TRANSMITTER
RECEIVER

The Primary Equipment

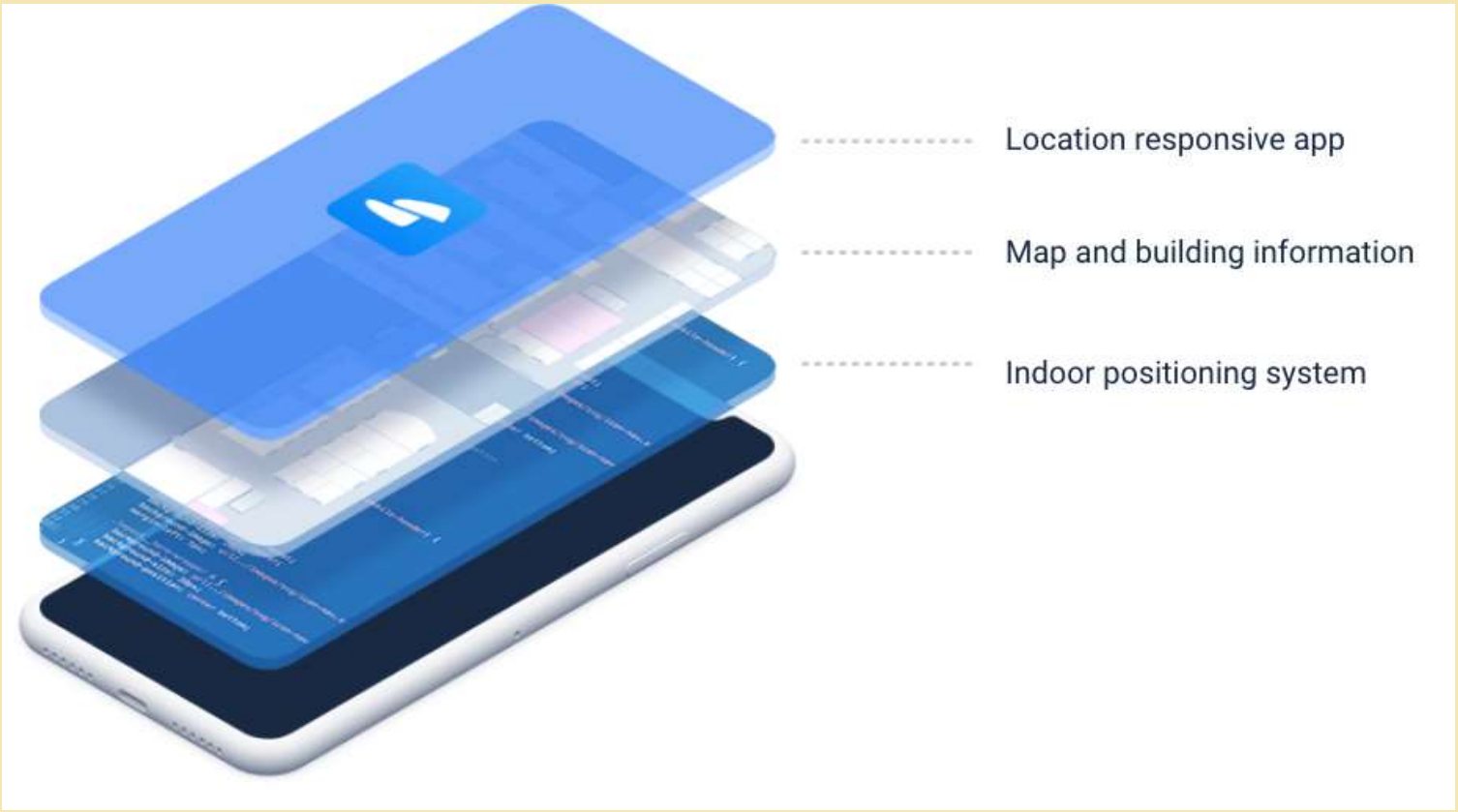
Indoor Positioning System (IPS)

- An indoor positioning system is a network of devices used to locate people or objects where GPS and other satellite technologies lack precision or fail entirely, such as inside multi-storey buildings, airports, alleys, parking garages, and underground locations

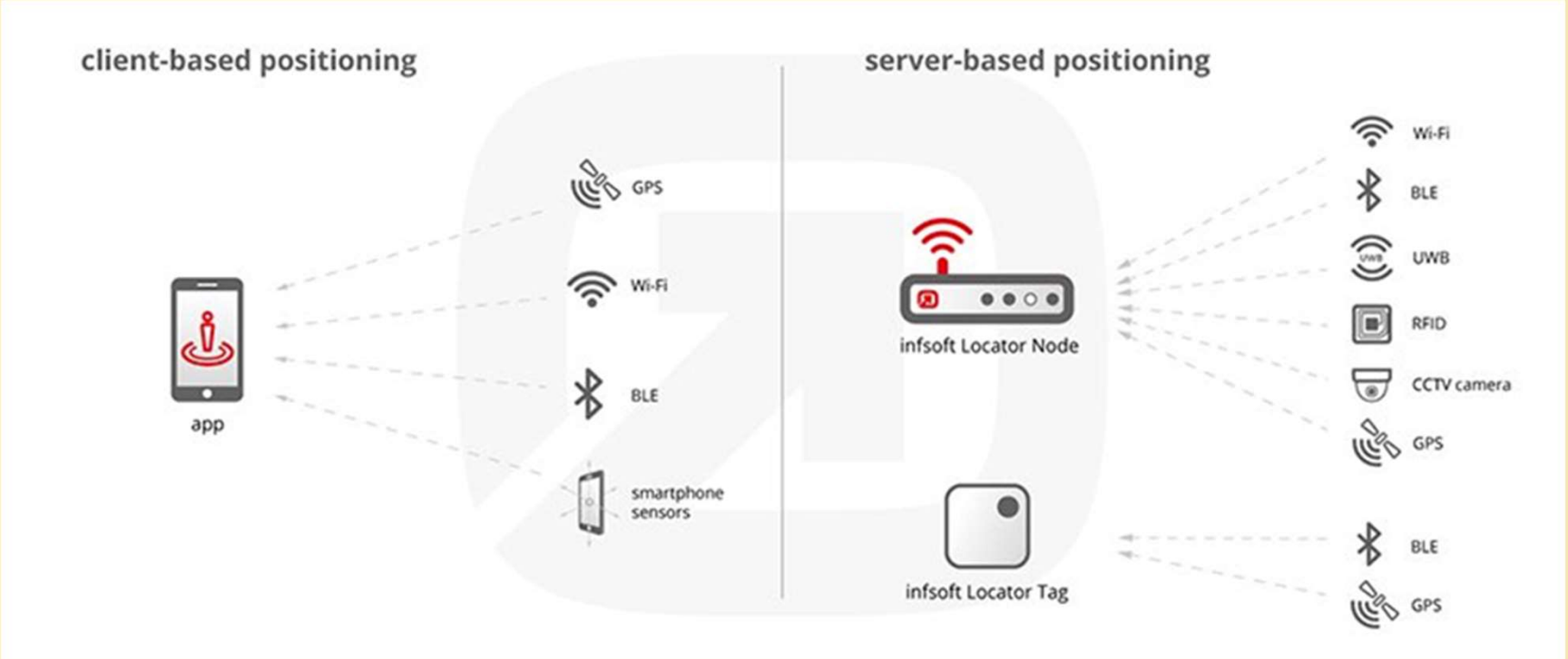
KPN NL
09:54
Back
4
3
2
1
RING 4
RING 3
RING 2
RING 1
BG
Total
GROUND FLOOR DOME



Three Layers of Location Based Services

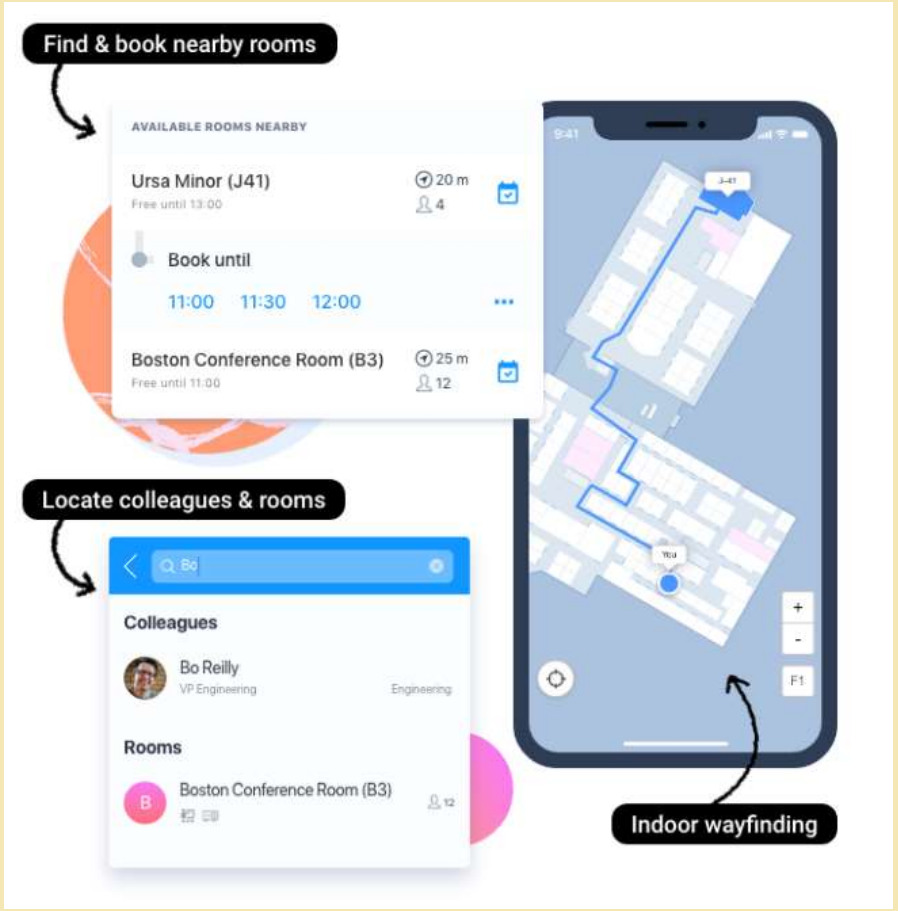


The IPS System Approach

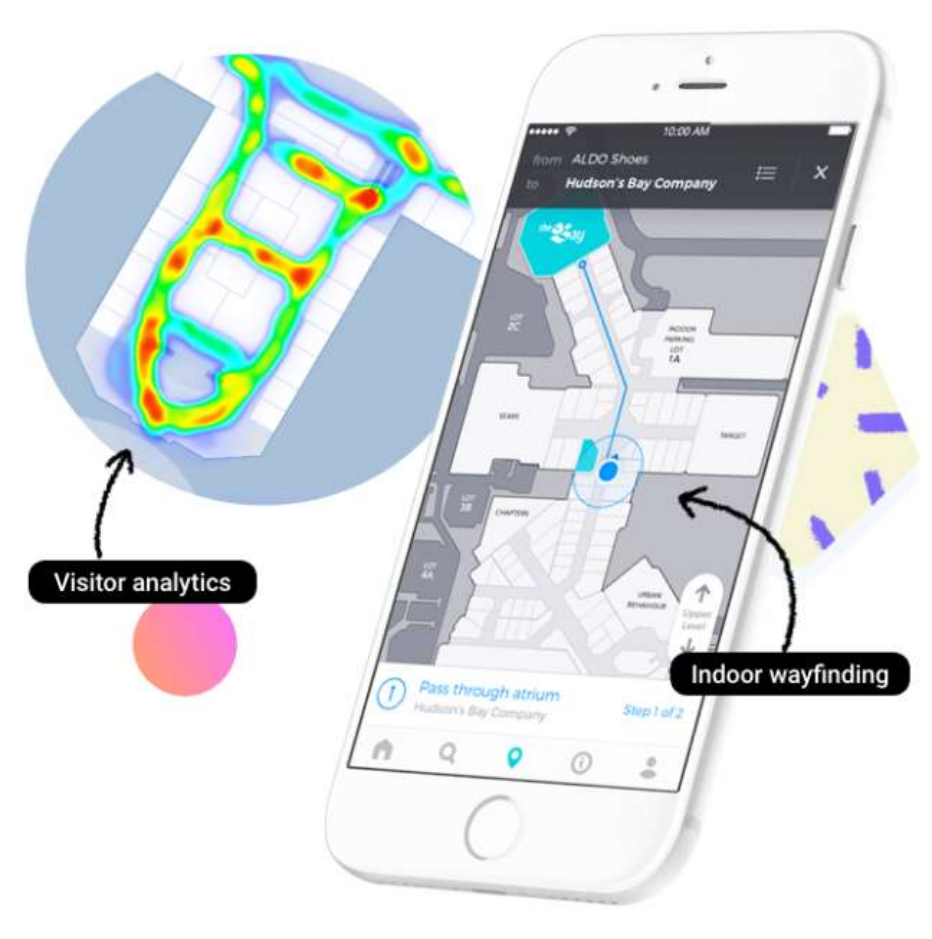


The Amazing Smartphone that we take so for granted

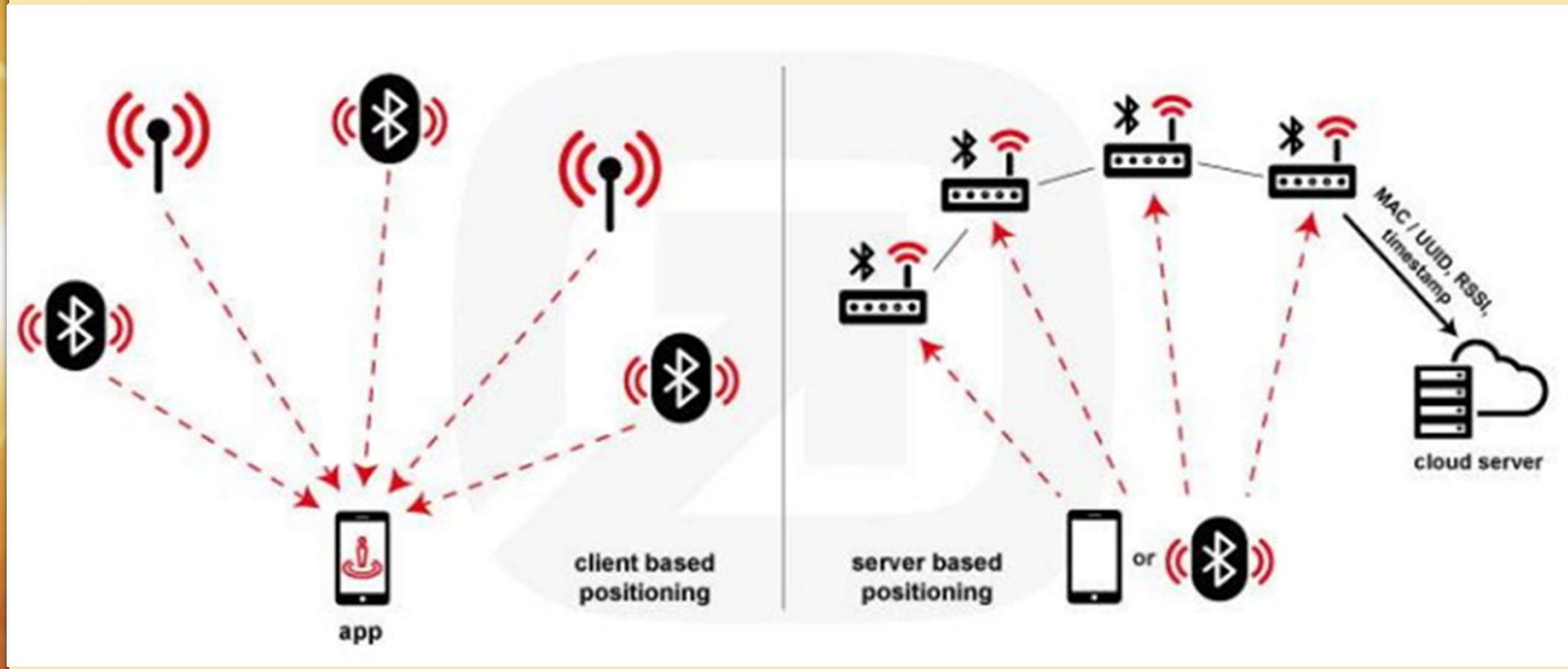
Smart Offices



Shopping Malls



The Proximity Beacon


app
client based positioning
server based positioning
or
MAC / UUID, RSSI, timestamp
cloud server

BHA

Carrefour Supermarkets – Spanish Android App

Brochures

Stores

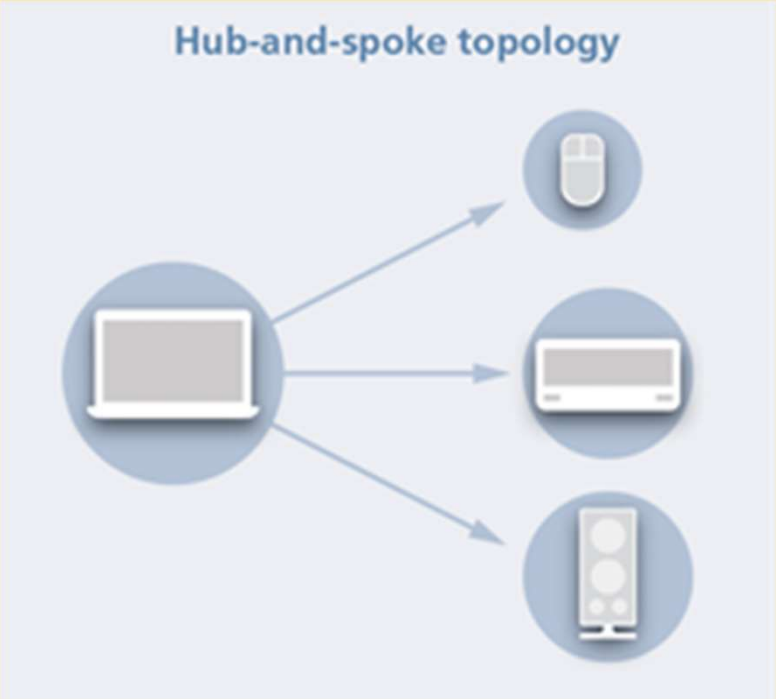
Savings cheques and coupons

Buy/checkout

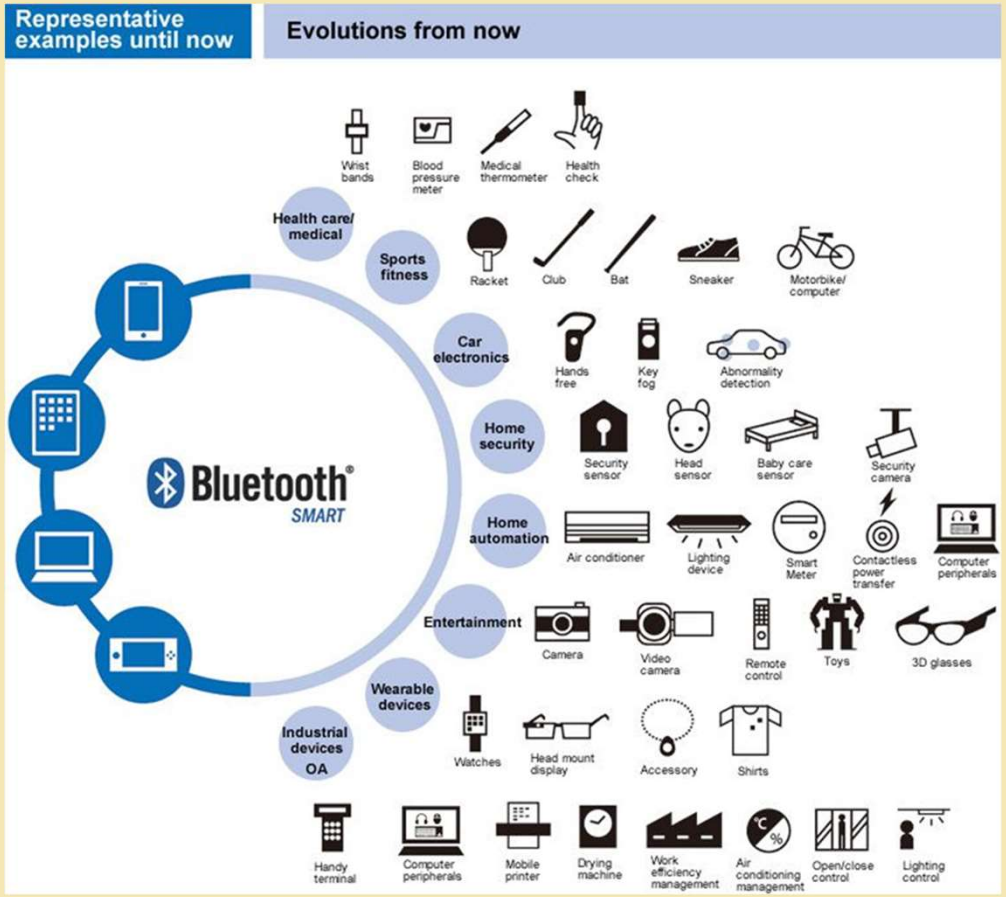
My Lists

More

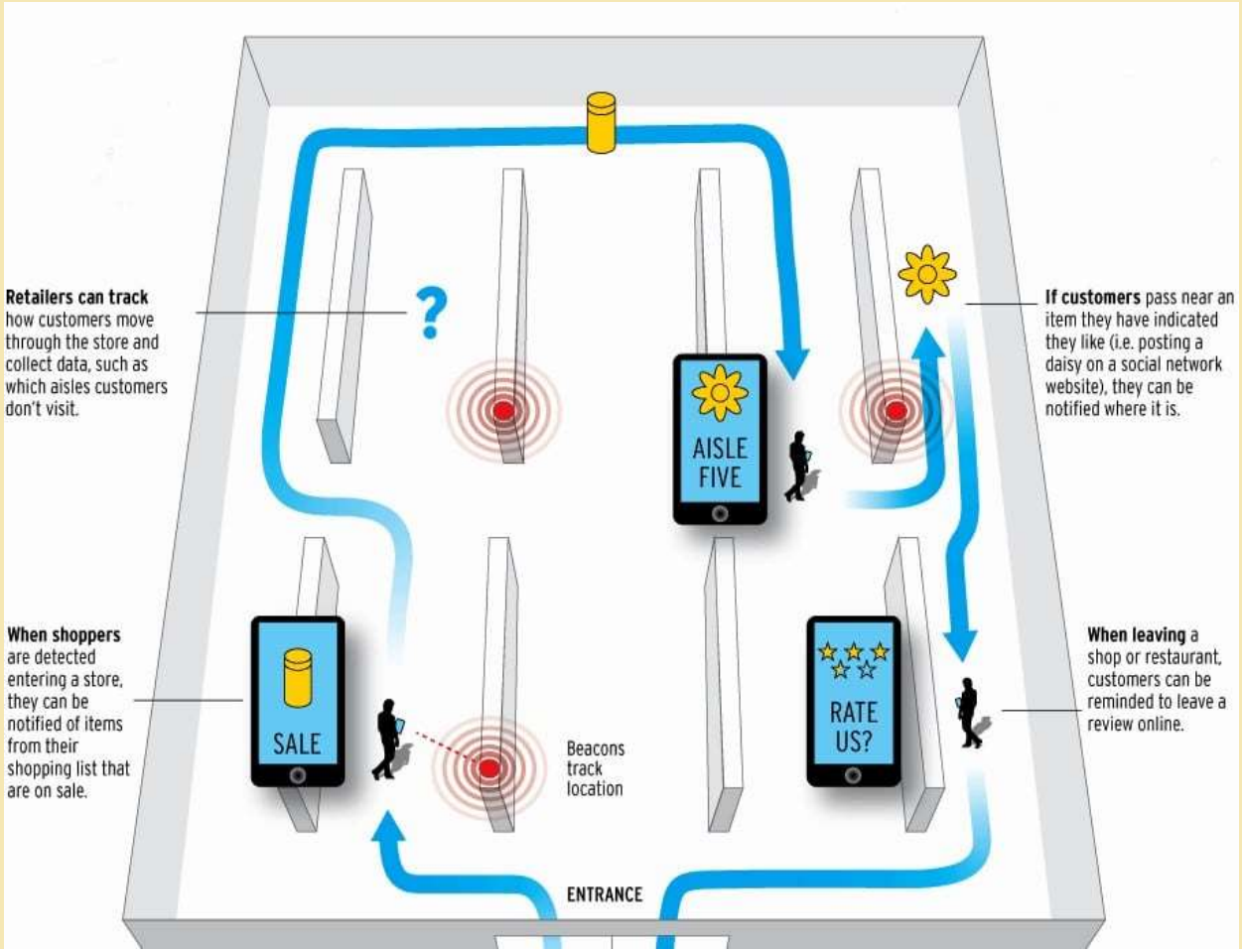
Bluetooth vs Bluetooth Mesh



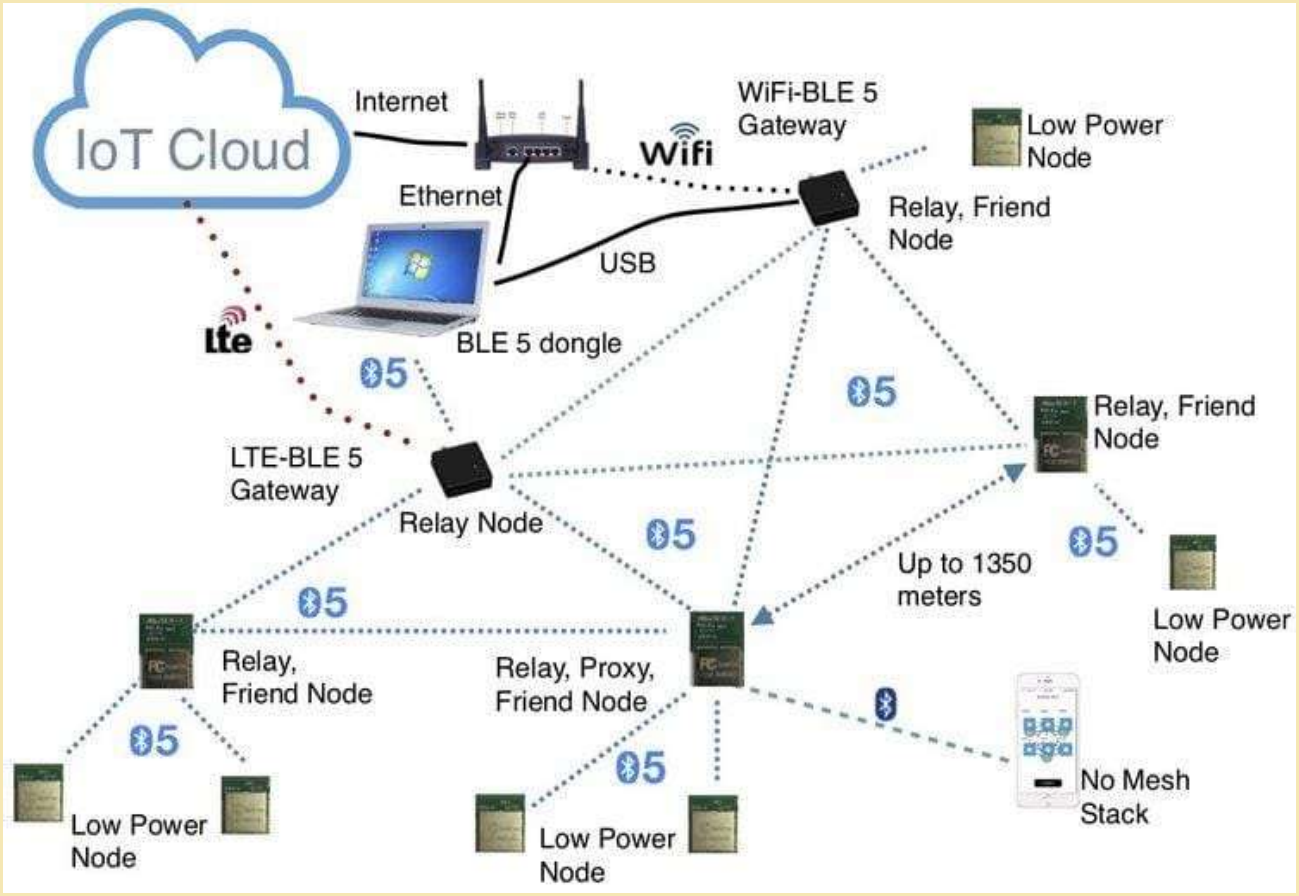
The Bluetooth Mesh System



BLE with Locating Services

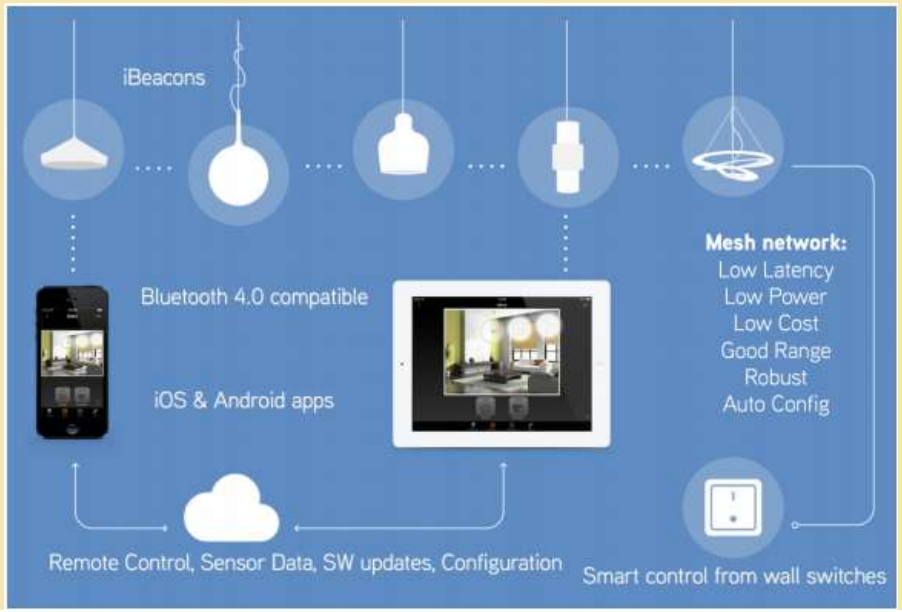


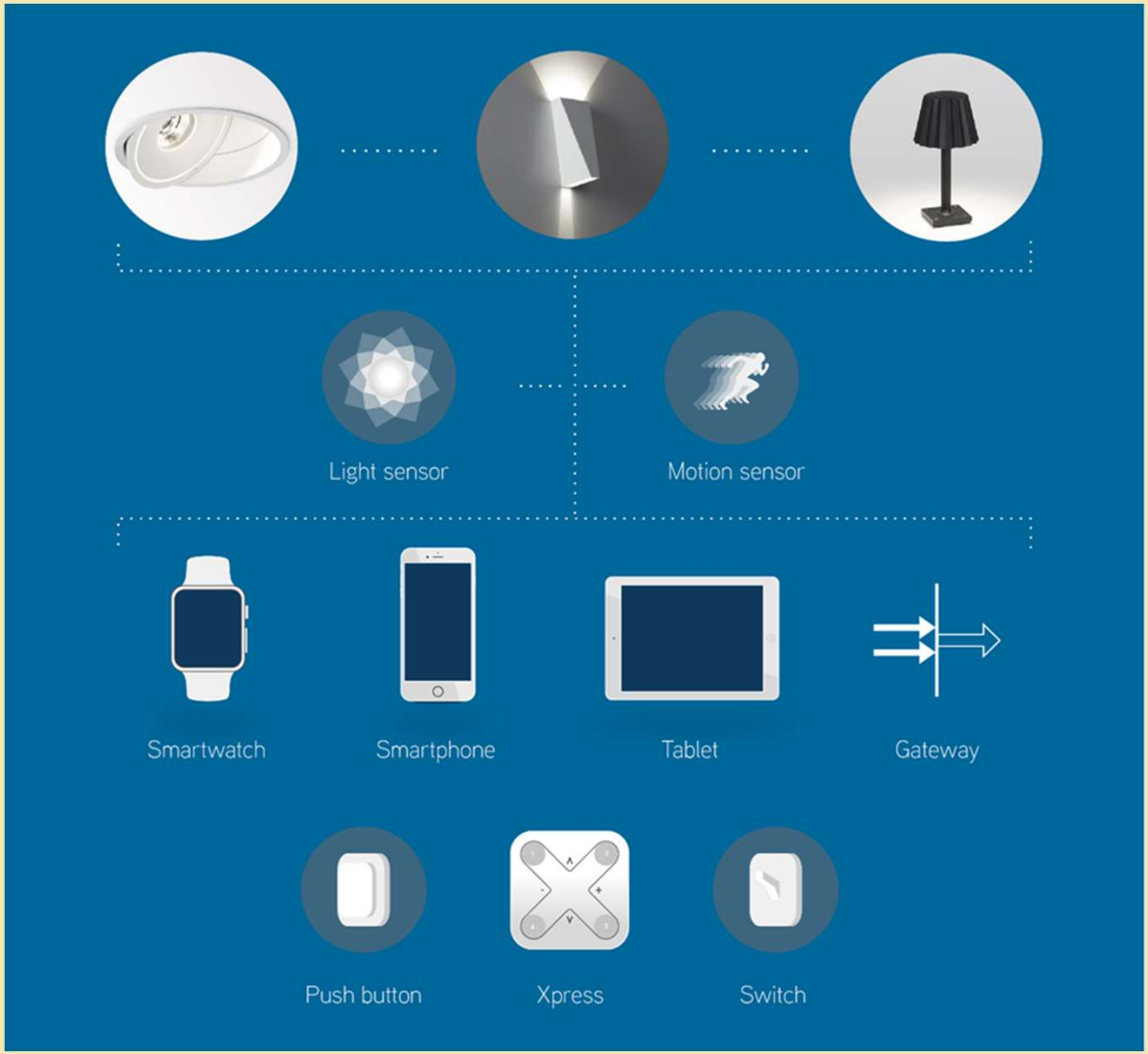
Bluetooth Mesh for Lighting and other Services

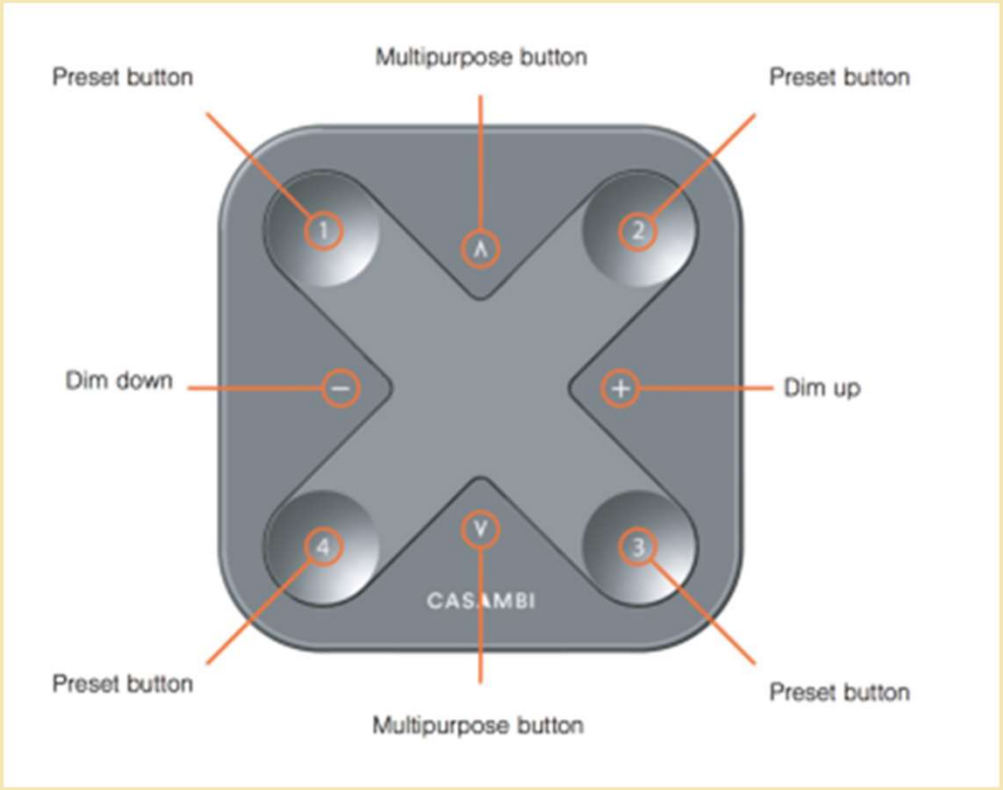


CASAMBI

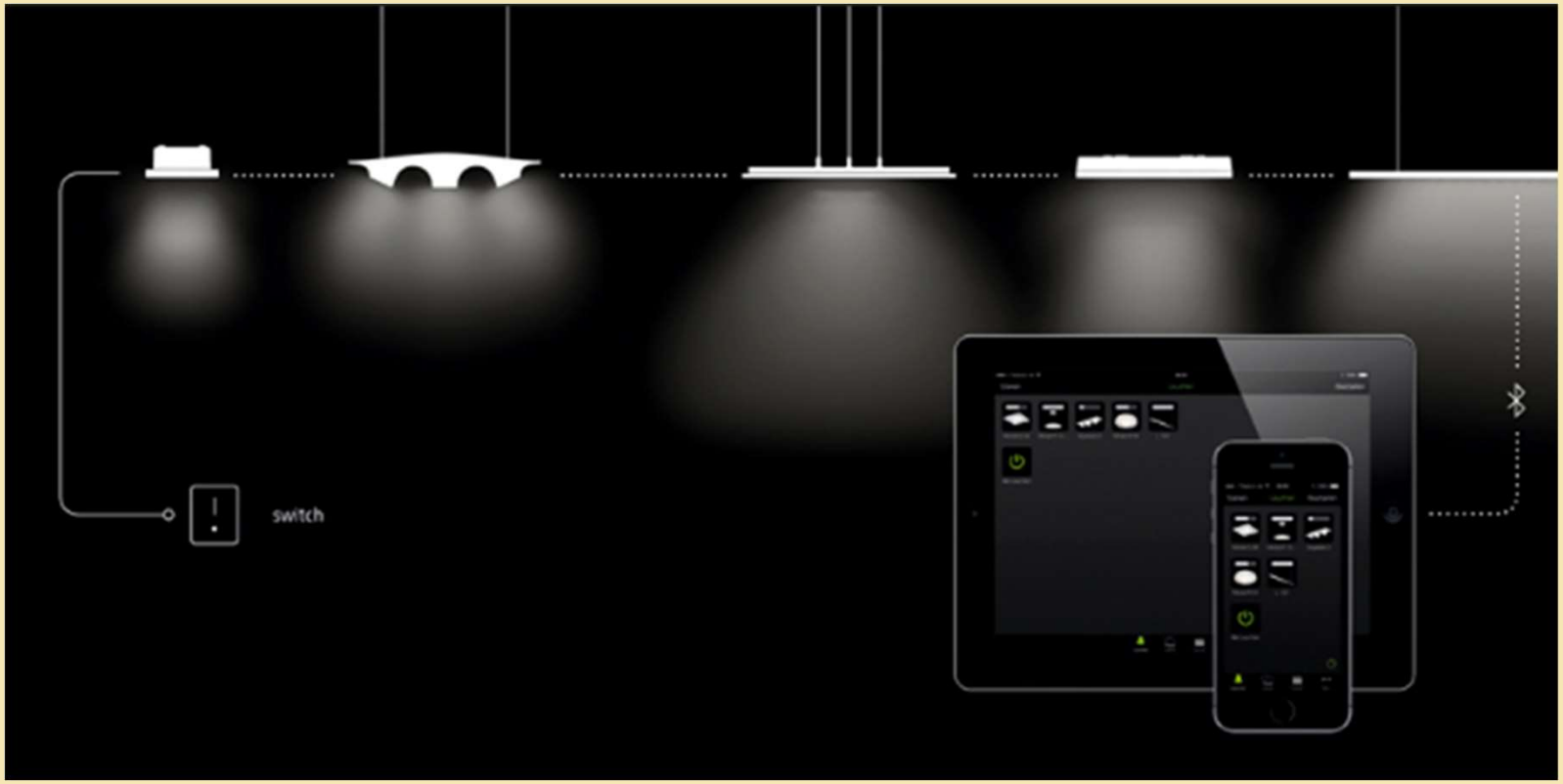
- **Casambi** is an advanced lighting control solution based on Bluetooth Low Energy (BLE) – it is not compatible with Bluetooth Mesh.




Light sensor
Motion sensor
Smartwatch
Smartphone
Tablet
Gateway
Push button
Xpress
Switch


Multipurpose button
Preset button
Preset button
1
∧
2
Dim down
−
+
Dim up
4
∨
3
CASAMBI
Preset button
Preset button
Multipurpose button

CASAMBI
My networks
Nearby devices
Show demo
Account
Sites


switch

Thank you for the privilege of being able to present this to you

- I will gladly answer any questions
- Thank you and goodbye