

Are today's wireless technologies ready to enable full convergence between lighting and connectivity?

SILVAIR

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What is needed to make this convergence happen?

Open, global, fully defined standard

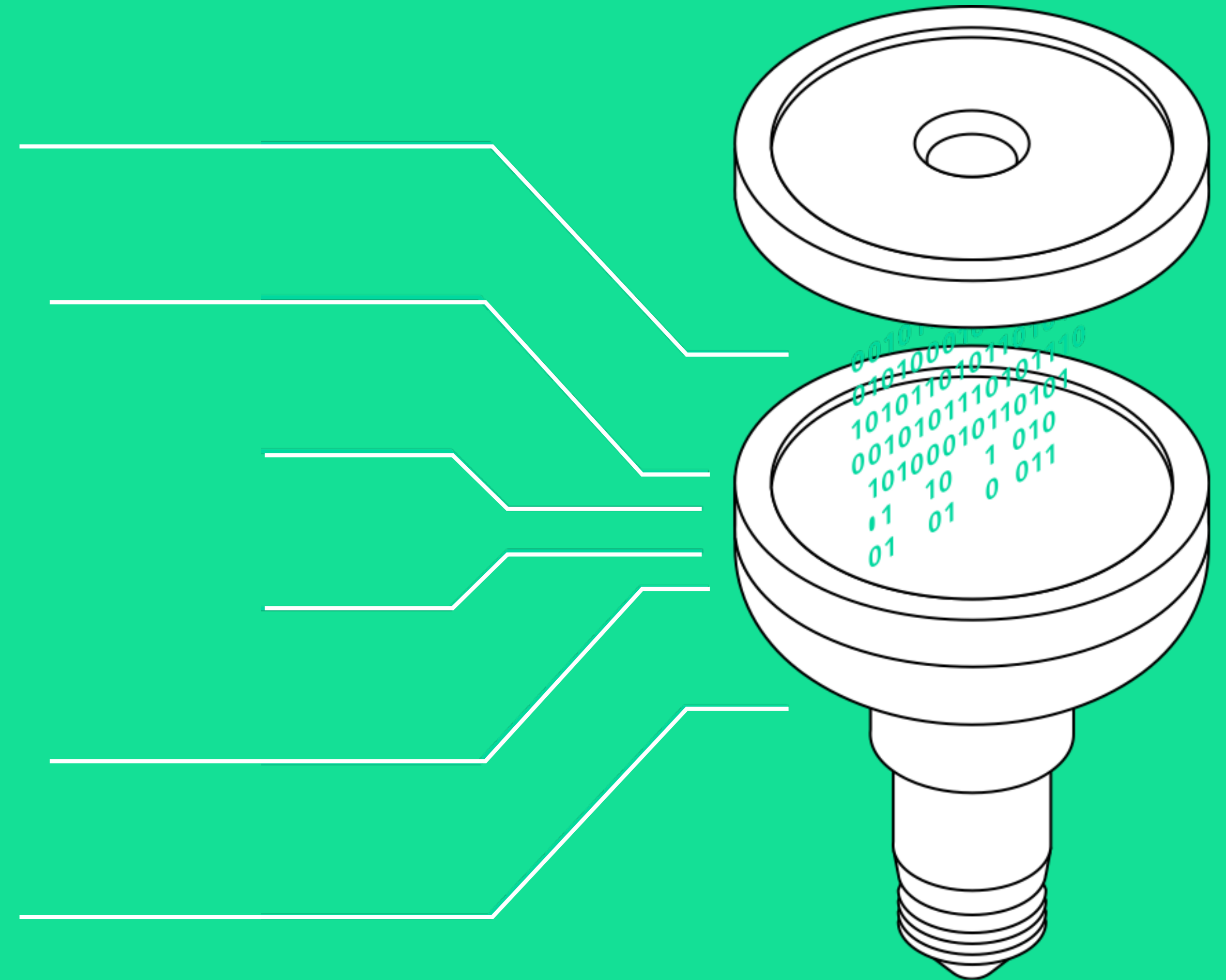
- guaranteed cross – vendor interoperability
- security architecture that can be publicly audited
- single radio frequency

Performance, scalability, reliability

- fast network (by a wide margin) to avoid any popcorn effects
- self healing mesh with multicast & multi-path delivery
- scalability to thousands of nodes & high message rates
- support for value added services (beacons, asset tracking)

Ease of use

- no unnecessary complexity
- a phone as a commissioning/diagnostic tool
- able to detect proximity of devices



Current standards landscape

– strengths and weaknesses of leading low-power solutions

Expectations	Z-Wave	ZigBee	Thread	...
mesh topology	✓	✓	✓	
interoperability	✓	?	?	
security	X	?	?	
scalability	X	X	X	
reliability	X	?	✓	
proximity sensing	X	X	X	
single global frequency	X	✓	✓	

Technical features of available wireless technologies

	Bluetooth 4	Bluetooth 5	802.15.4	KNX RF (Multi
Data rate (kbit/s)	1000	125-2000 (adaptive)	250	16.4
No. of channels	40	40	16	5
Link budget (dB)	110	130	103	112
Multi-service capability	beacons, asset tracking, indoor navigation & more		X	X
Direct connection to smartphones	✓	✓	X	X

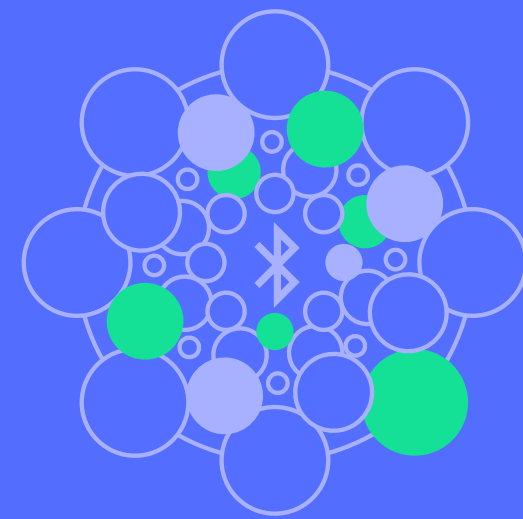
Bluetooth SIG

MEMBER-DRIVEN

OPEN



every company can become a **member**



no **NDA** required



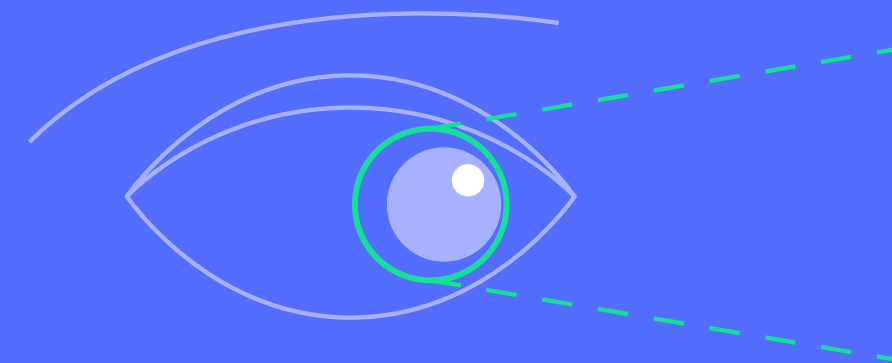
specifications are **publicly available**

31K

members and still **growing**

AGILE
dedicated working groups

FOCUSED ON LIGHTING



CREDIBLE AND EXPERIENCED



proven track of delivering global and fully interoperable ecosystems

INDEPENDENT

Bluetooth SIG owns the Bluetooth radio throughout all the **7 layers** of the OSI model

- Application
- Presentation
- Session
- Transport
- Network
- Data Link
- Physical

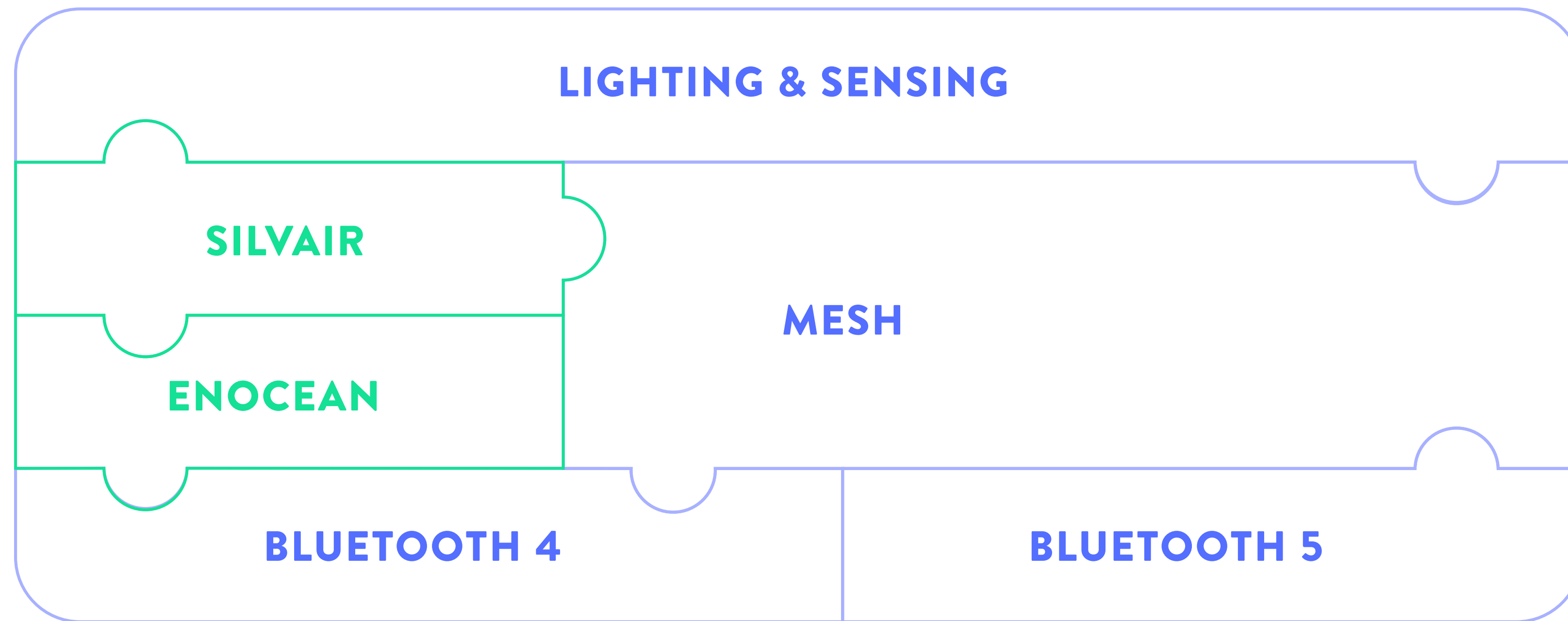
The **Mesh Professional Lighting Subgroup** enables lighting professionals to have a real influence on the future development of Bluetooth Mesh.

Join today!

Full-stack approach to connected lighting

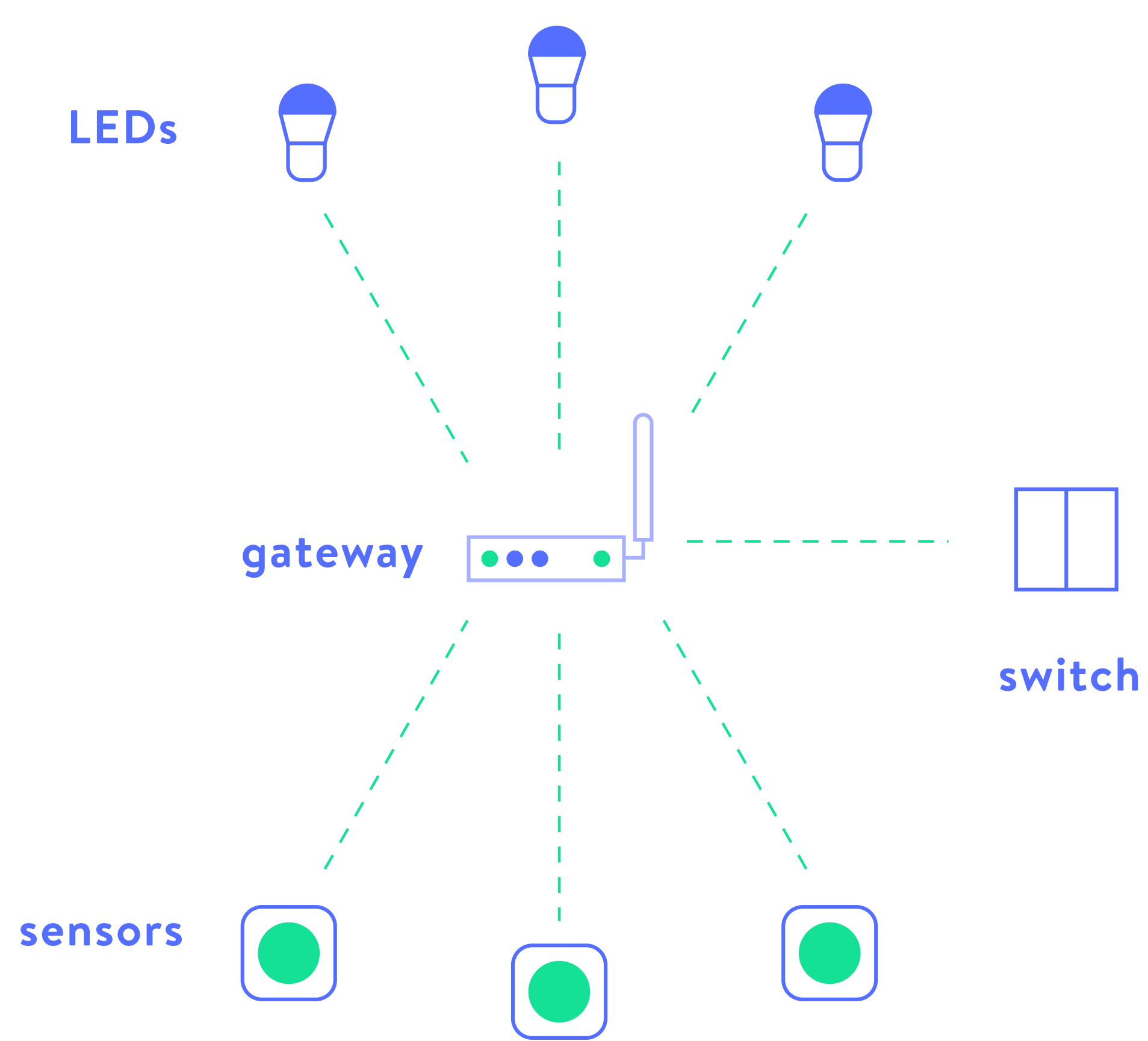


Convergence within devices

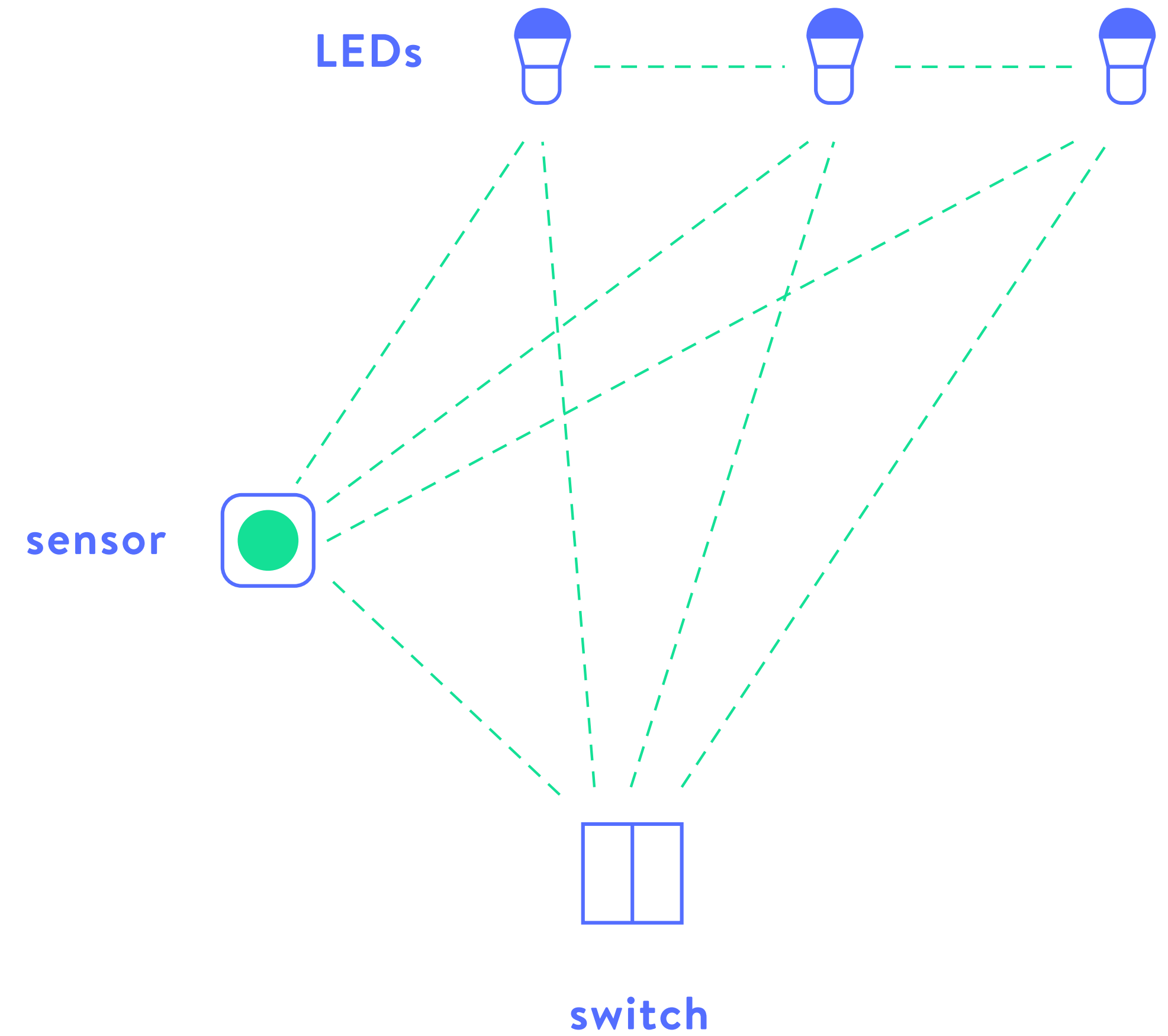


Reliability and flexibility with no single point of failure

PAST



BLUETOOTH MESH



What makes Bluetooth so disruptive?

Open, global, fully defined standard

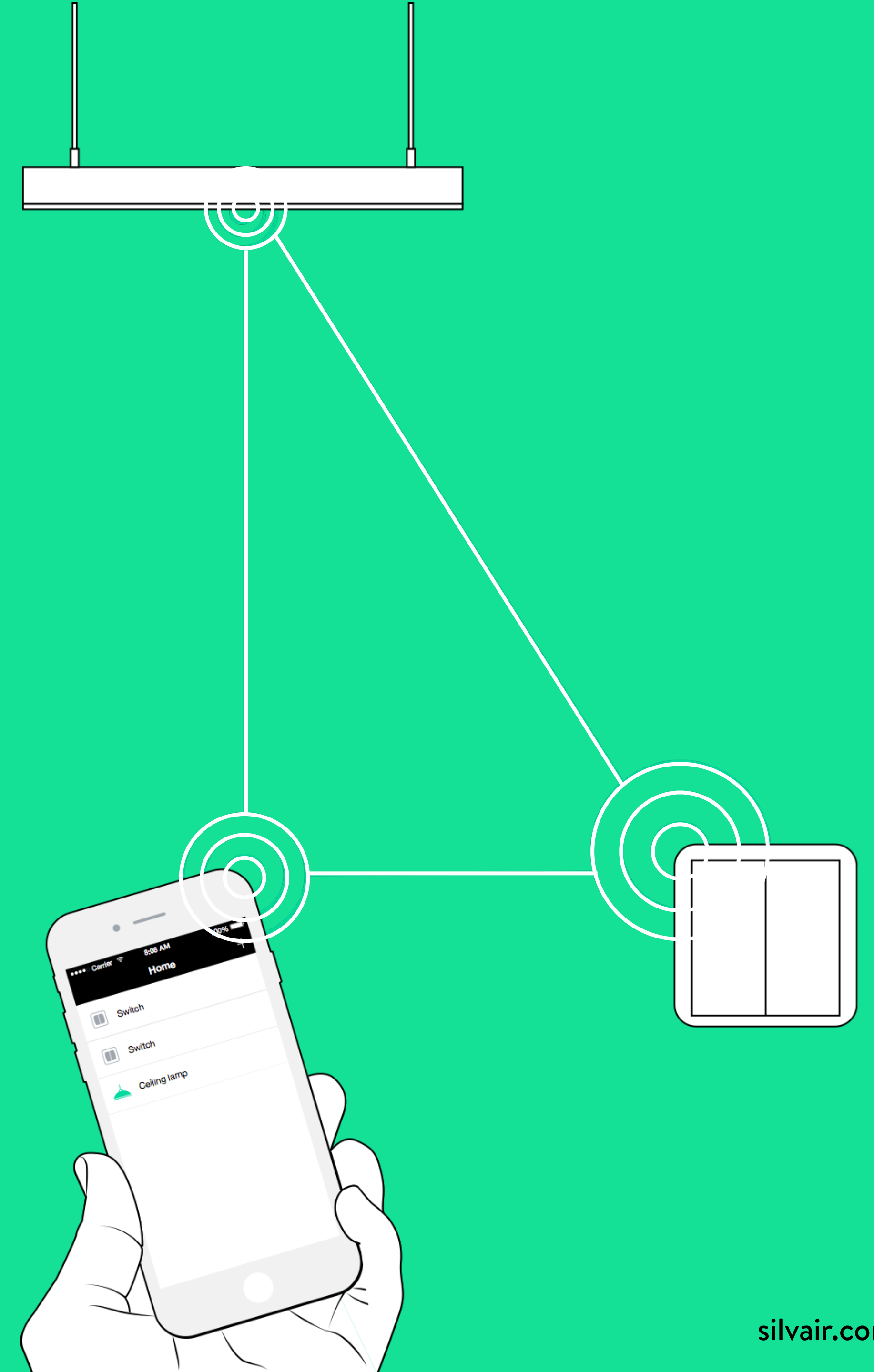
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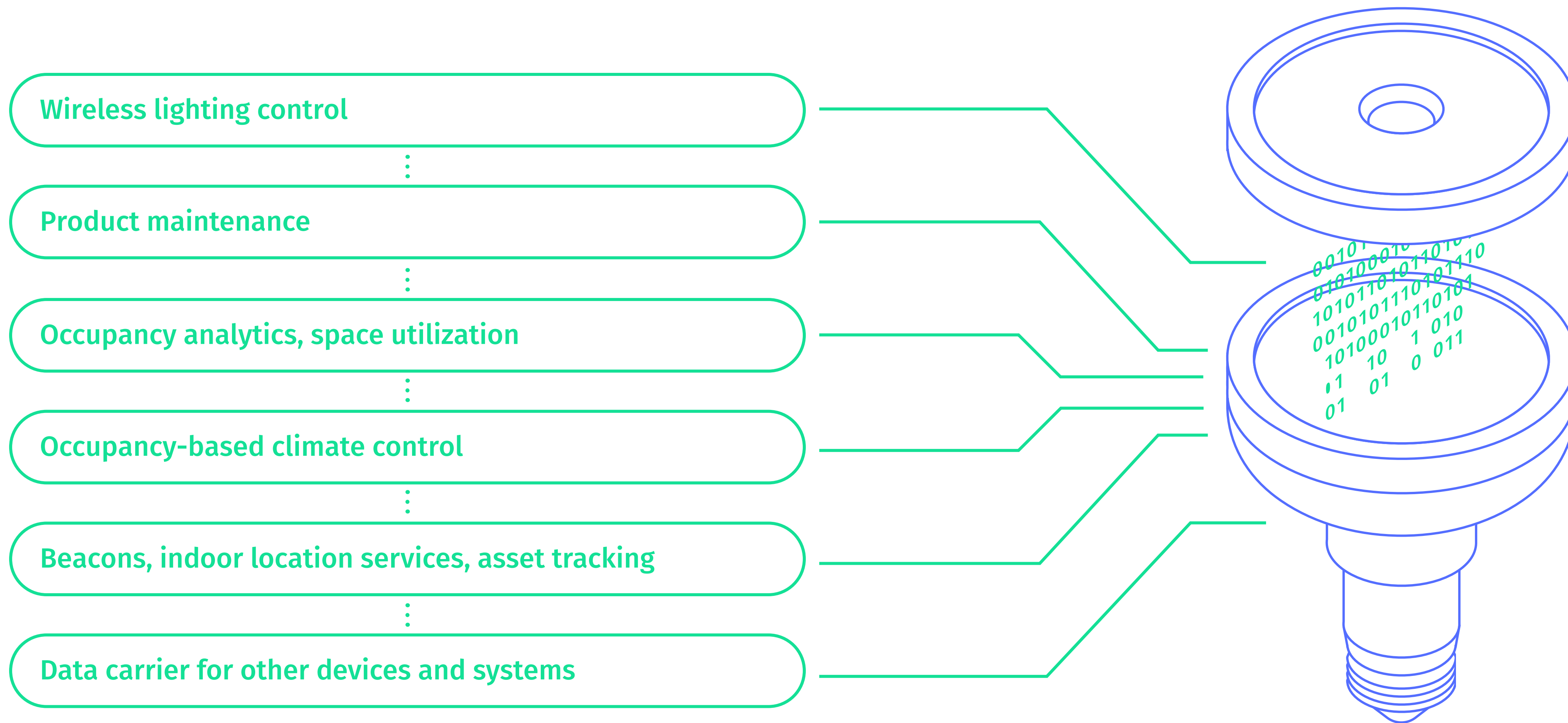
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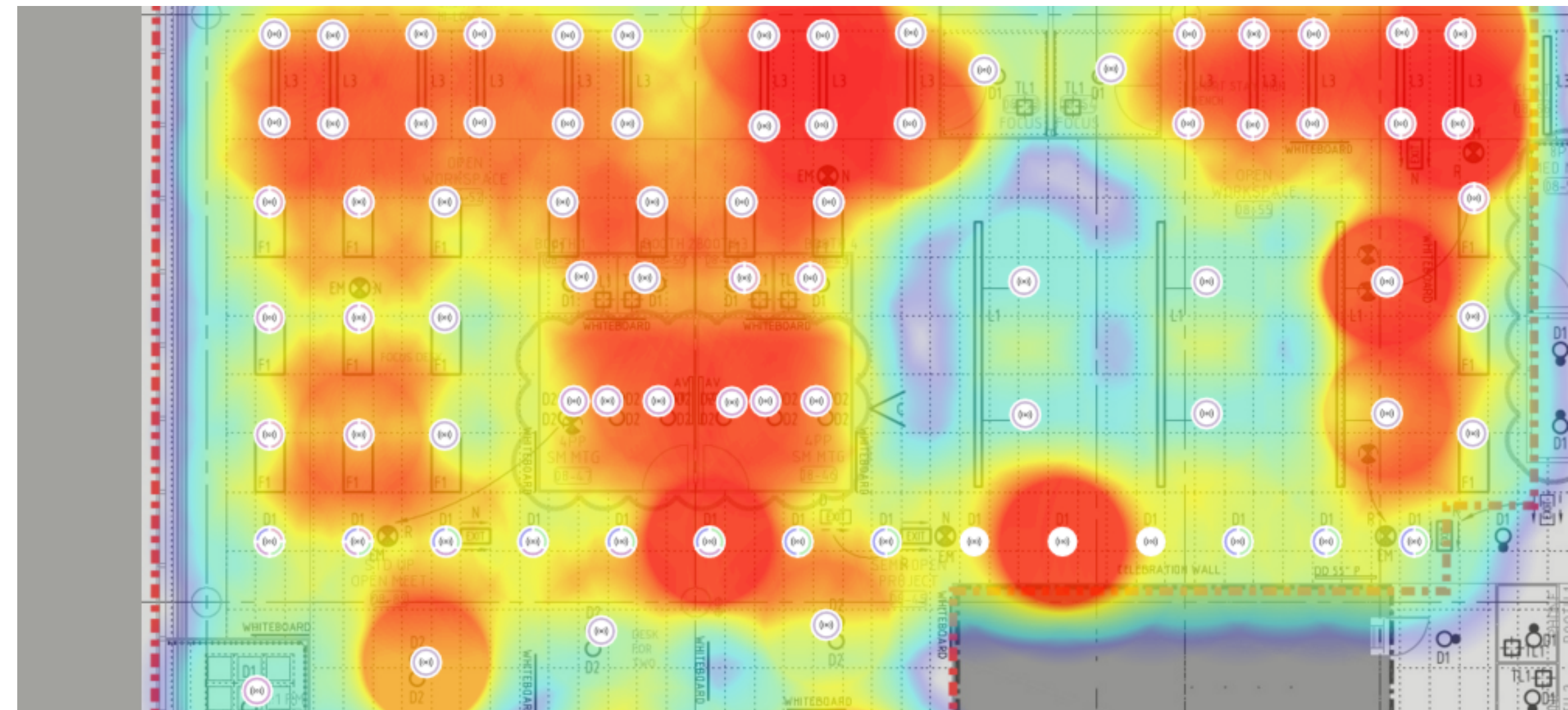
Bluetooth: the radio convergence



From theory to practice

– AGL case study

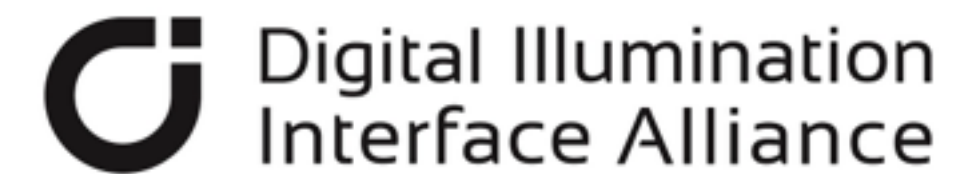
- AGL Energy head office in Melbourne (A-grade, 6-star Green Star rated)
- joint project by Silvair and Organic Response
- 1,500 smart mesh nodes + 6 Silvair Logic gateways
- adaptive lighting control system
- fixture data and sensor data pushed to the cloud



Thank you!

Silvair is a pioneer in Bluetooth-based smart lighting technologies for professional applications. We are committed to driving the connected lighting revolution in commercial spaces.

We're members of:





SILVAIR

Supporting slides

A woman with long dark hair, wearing a black and white striped t-shirt, is looking down at a tablet computer she is holding with both hands. She is standing in a bright, modern clothing store. In the background, a man in a light grey t-shirt is standing near a clothing rack, looking towards the woman. The store has large windows, a cactus, and various clothing items hanging on racks.

Seamless deployment

enormous flexibility
no need for control wires
rapid retrofitting
intuitive commissioning

Robust wireless control

smooth dimming via
wireless devices

advanced lighting
control strategies

tunable white





Convenient product maintenance

predictive maintenance

**accurate real-time operational
feedback**

**insight for manufacturers over
the entire product lifetime**

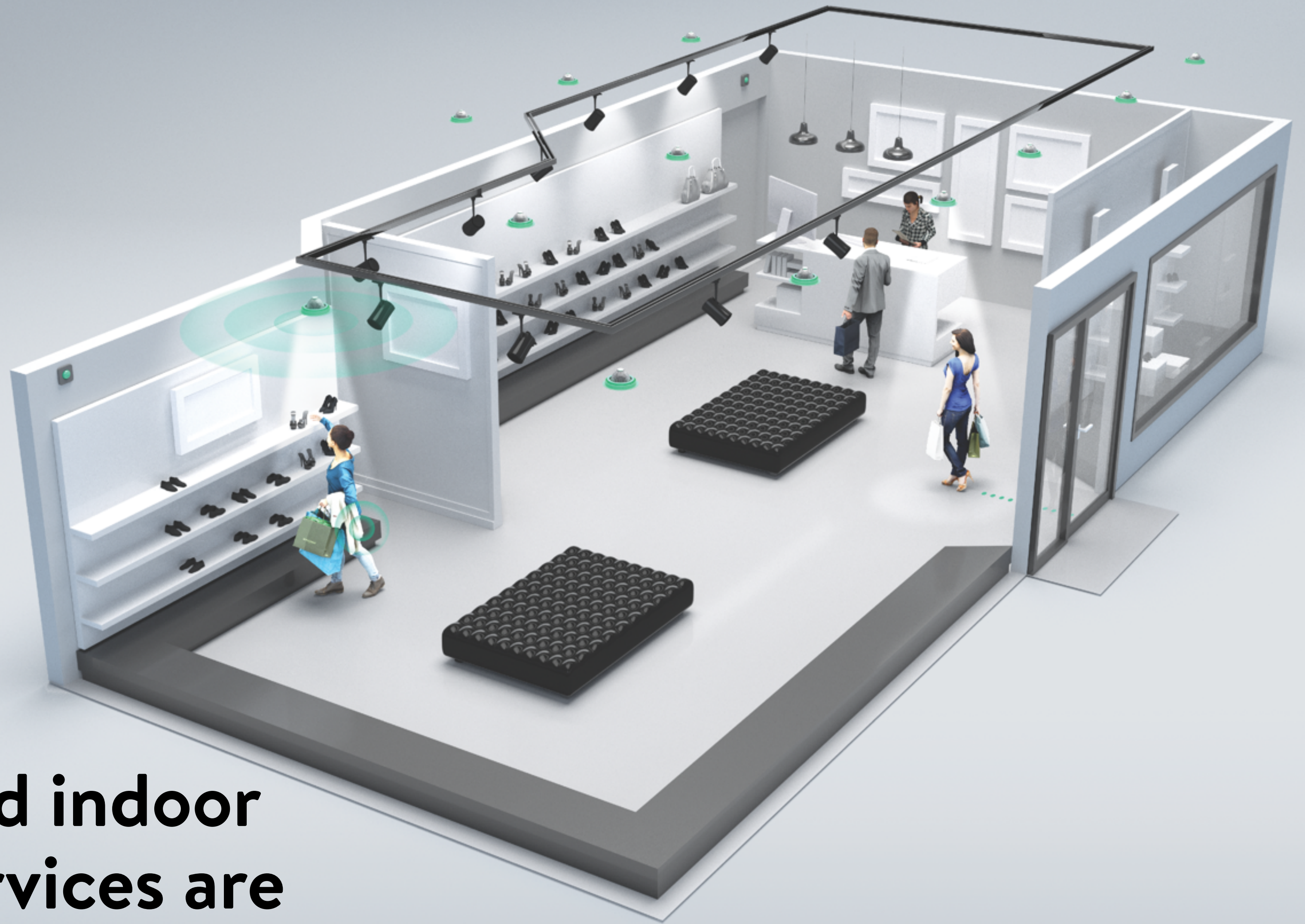
future-proof products



Beacons

**beacons-via-lighting
infrastructure**

Precise indoor location services



guiding people around indoor spaces where GPS services are ineffective



Asset tracking

quick and accurate tracking of physical assets by using tiny Bluetooth tags

Occupancy-based
climate control

adaptive HVAC infrastructure
reactive and predictive indoor
environment

