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Smart Buildings SHOW

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CABLING FOR THE INTEGRATED HOME

CEDIA PROFESSIONAL DEVELOPMENT

YOUR SPEAKER

Ben Johnson

- Owner at Aura Home Tech, Berkshire based integration company.
- Specialise in residential market, working with private clients & other build professionals.
- Design, Install & Aftercare service.
- CEDIA members and outreach instructors.
- 9 Years in the industry, previously trained as an electrician.

CEDIA MEMBER

The Association for Smart Home Professionals

CEDIA is an international trade association of companies that specialise in designing and installing electronic systems for the home and is the leading global authority representing the home technology market.

- 30,000+ Industry professional members.
- 4000 Member companies.
- 77 Countries.
- CPD Program accredited by RIBA & BIID.

AGENDA

Overview

- Defining the 'Integrated Home'
- The demand for connectivity
- Wired vs Wireless
- Cabling types
- Layout, space & equipment
- Next steps

THE INTEGRATED HOME

Photo courtousy of Aura Home Tech

The 'integrated' home?

"A series of connected devices that allow the occupier to live, work and relax in a simpler and more intuitive way. This connected environment allows for a more comfortable style of living."

No gimmicks!

Intuitive systems that deliver simplicity & reliability are the key.

1. 'Everyday' modern technology...

- The number of devices per individual - phones, tablets, laptops.
- Entertainment - smart TV's & streaming boxes, music streaming, gaming.
- The Home - video doorbell, smart heating, outdoor spaces.

2. Challenges of environment...

- Foil backed materials, steel, glass, stone surfaces, concrete floors - all limit the range of wireless technologies.
- Meshing or boosting already wireless signals can be unreliable, particularly in bandwidth heavy applications.
- Additional cabling or 'infrastructure' is the only reliable way to overcome this.

3. Luxury living tech...

- Larger properties don't only require more coverage due to increased sq ft but will also have additional tech and systems - AV Distribution, CCTV, Intelligent lighting, Intercoms, HVAC & Control systems.

Conclusion

When we consider the points we have just raised then it's quite easy to see how a property with little or no cable infrastructure will start to struggle.

- Poor range
- Un-reliable
- Freebie 'all-in-one' equipment.

Solution

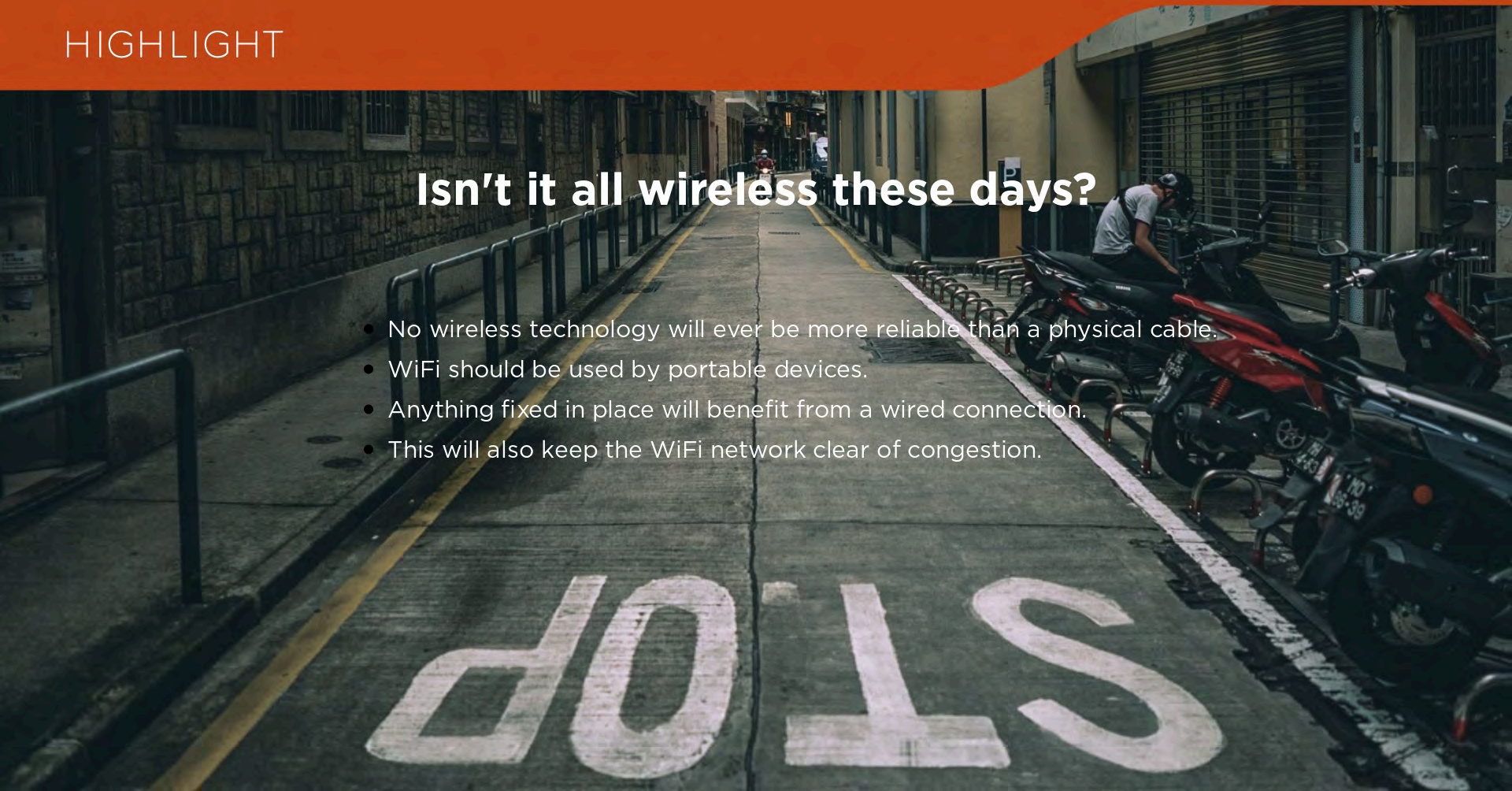
Even the least 'techy' user will benefit from some level of cabling infrastructure in today's connected environment.

Infrastructure allows us to install technology discreetly, reliably and provides choice to the client.

The most expensive cable, is the one you forgot to install!

HIGHLIGHT

Isn't it all wireless these days?



- No wireless technology will ever be more reliable than a physical cable.
- WiFi should be used by portable devices.
- Anything fixed in place will benefit from a wired connection.
- This will also keep the WiFi network clear of congestion.

CABLE TYPES

BEST SELLER

	Copper Category	Fibre Optic	Speaker	Control	Coaxial
Types	Cat 6 Cat 6A	OS2 OM3	16/4 AWG OFC 14/4 AWG OFC	2 Pair 2x22 AWG 2X18 AWG	RG6 CT100
Function	Network IP Video distribution HDBaseT IP CCTV Intercom & access	Network Out buildings Future IP Video	Audio Cinema Media Rooms	Intelligent lighting Motorised shades BUS technology	Video Freeview/ Terrestrial
GOTCHA	Max. 100m length	More costly hardware	Check gauge size	Wiring topology can vary	Legacy cabling

CABLE SPECIFICATION

Remember to consider...

- Cable grade suitable for environment - indoors, outdoors

- CPR Regulations

Construction Products Regulation, BS EN50575

- Routing and future access - external ducts & pre-made cables

WHAT GOES WHERE

Define your services...

Understand the requirements of the household or builder.

This may involve educating them on suitable tech.

There is no one size fits all, start with a concept drawing.

Best to consult with a professional for accurate design advice specific to the project.
Including developers 'pre-wire' schemes.

TOPOLOGY

Absolute minimum...

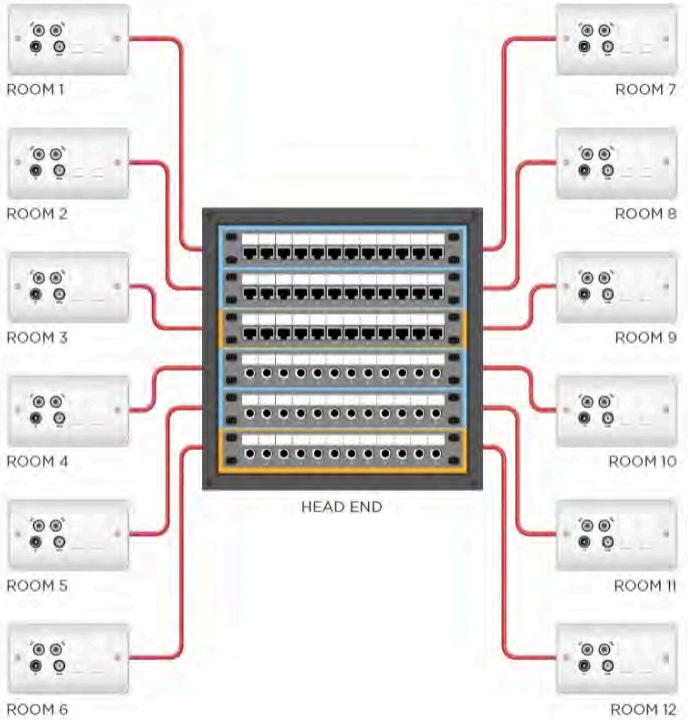
To each room:

- 1x Cat 6A
- 2x Cat6
- 1x Coaxial

(Will all fit within a UK 2G back box).

This will give some options for TV & network connectivity.

Majority of systems will require a 'home run' architecture.

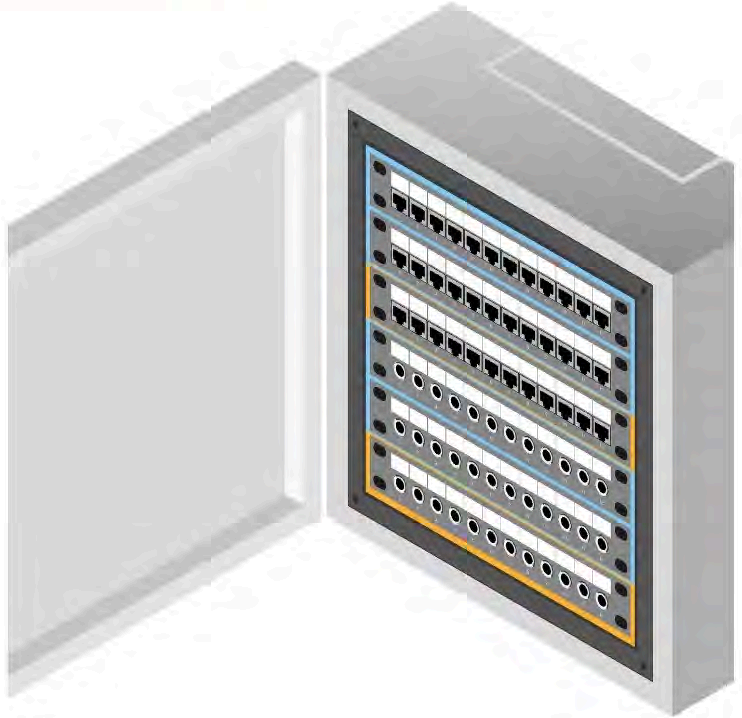


THE HEADEND

Each device or outlet will run back to a central location - The 'Headend'.

When deciding on the headend location, consider:

- Space requirements - equipment
- Position within the property - length of cable runs
- Access for maintenance & servicing
- External influences - other equipment in the room
- Environment - temperature, ventilation, humidity



INCOMING SERVICES

Checklist

1. Incoming telephone/broadband.
    - *Part-R requires you to be gigabit-ready.*
2. Cable/satellite/aerial.
    - *Some suppliers will require the use of 'their' cable.*
3. Power supplies.

4. Earthing
    - Clean earth for shielded cabling.

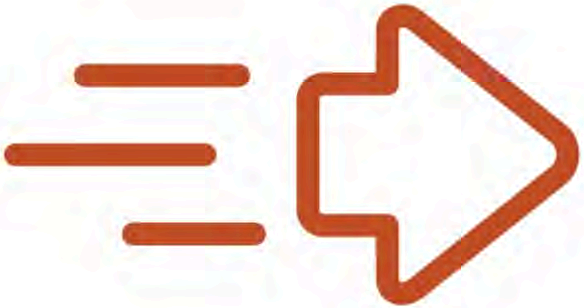
NEXT STEPS

Photo courtousy of Aura Home Tech

Supporting guidance

BSI Guidance
PAS 35491:2017
Design and installation of telecommunications and broadcast infrastructure within the home.
Code of practice.

It's a good starting point but technology moves quickly.



COLLABORATIVE EFFORT

- Hopefully you leave with some additional value from today's session.
- Reach out to a systems integrator, preferably a CEDIA member.
- The right ones will add value to the services you currently offer.
- They will have the procedures and processes in place to facilitate client consultations, product demo's and design services.

Further information

We have further CPD sessions available.

Contact CEDIA or come and speak with us after this session.

CEDIA MEMBER

THANK YOU & QUESTIONS

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We look forward to seeing you in 2024